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ESSAYS, MONOGRAPHS, AND CASES.

Removal of the Placenta in the Early Months of Pregnancy by Evulsion. By O. C. Gibbs, M.D., Frewsbury, Chautauque Co., N. Y.

In the discussion of this subject before the New York Academy of Medicine, as reported for and published in the October No. of the Monthly, several obstetricians expressed the opinion that instrumental delivery of the placenta after abortion, even in alarming cases of hæmorrhage, was unsafe and unnecessary.

To take part in a discussion in which men of such extensive experience and wide-spread reputation have participated—men whose opinions are so worthy of respect and confidence as are Drs. Barker, Gardner, Hubbard, Sewall, Underhill, &c., may seem like the height of presumption on our part. But, holding to some opinions of a positive character upon this subject, we trust we shall be exempted from the charge of egotism in giving them expression, though our field of observation may be more limited than that of another man who may hold opposite opinions.

We would preface our remarks by saying that our opinions do not differ materially from those of Dr. A. K. Gardner, as at different times expressed. We might differ in the choice of instruments; also, perhaps, as to the time for their use. But more of this further on.

Uterine hæmorrhage, if considerable, is always a source of anxiety,

danger and alarm, and never more so than when it succeeds delivery, whether mature or premature. In such cases, it retards recovery, endangers life, and is often the immediate cause of death.

This last statement, we presume, will not be denied, for it is too well known that deaths from hæmorrhage after labor or abortion are by no means infrequent, and when death is not the direct result, from loss of blood, the patient is frequently so prostrated as to be many months in recovering perfectly, and often other diseases are superinduced, leading more remotely to the grave. Dr. Thomas F. Cock, of New York, says, "such hæmorrhages are of importance, because, in *many cases*, they have proved fatal; and their treatment demands some peculiarities beyond that usually pursued in flooding." (See *New York Journal of Medicine*, July, 1857.) Hence the importance of fully understanding the causes of such hæmorrhages and their most appropriate methods of treatment.

Dr. Gardner has truly said, "there is no time for vacillation in opinion or action; no time to run home to hunt up some method of treatment. The surgeon, if he finds himself at fault in his anatomy, while an assistant compresses the artery, may turn to his manual for light respecting the course of an artery, but in the floodings of the parturient there can be no temporizing." (See *American Medical Monthly*, vol. iii., p. 420.)

It is not infrequently the case, that in the early months of pregnancy the uterus expels the fœtus, while the placenta is retained, but partially detached from the uterine walls, in which event excessive hæmorrhage is an accident of difficult prevention. In all such cases as have fallen under our observation, the hæmorrhage has immediately ceased on the complete detachment and removal of the placenta. The question now under consideration, is whether hæmorrhage under such circumstances shall be arrested beyond the probable contingency of a return, *by an immediate removal of the placenta with instrumental aid, if need be*, or whether the case shall be trusted to those uncertain remedies, styptics and the tampon, aided by time and the recumbent posture? In our ten years of rather limited comparative experience, in cases of alarming uterine hæmorrhages following abortion, we have lost no time in detaching and removing the placenta, and we have seen no reason to regret our course.

Even in cases of hæmorrhage before the uterus has expelled the ovum, *where the life of the patient is in jeopardy, and all hopes of saving the life of the embryo have vanished*, we have not hesitated to separate the embryo from all vascular connection with the uterus, and remove

the products of conception; in which event the hæmorrhage has invariably ceased. The propriety of this latter course is not at present under consideration; we have simply to deal with a partially detached and retained placenta. In such cases, how shall the removal be accomplished? We answer, *with the fingers if it can be, with instruments if we must.* What are the objections to such removal? No one hesitates to introduce the hand into the womb to accomplish turning, or to remove an attached placenta at full term. The irritation produced by the introduction of a suitable instrument to remove a retained placenta following abortion in the earlier months, is much less than that caused by the introduction of the hand at full term, and infinitely less than that caused by the disintegration and decay of the retained placenta. For the last eighteen months, the instrument which we have used is that described and figured by Dr. Carey, of Dayton, Ohio, in the *American Medical Monthly*, vol. vii., p. 4, and subsequently in the *Western Lancet*, vol. xviii., p. 276. Though designed for the removal of the ovum, in cases of necessity, it is decidedly the best and safest instrument we ever used for the removal of the secundines. We certainly prefer this instrument to the "crotchet" of Dr. Dewees, or the "placental forceps" of Dr. Henry Bond. In regard to the propriety of the removal of the secundines after abortion, we might cite various high authorities, but we will content ourselves simply with quoting Dr. Churchill. He says, "if the fœtus alone be expelled, we may wait a while, (*if no flooding occurs,*) to see if the uterine efforts will not detach the secundines; if not, perhaps we may be able to reach the lower portion of them with the finger, and gradually withdraw them; if this fail, we may frequently succeed with the ergot of rye. But there are many cases in which none of these plans will succeed. Are we then to leave the case to nature? We know that after a time the shell of the ovum will putrefy, dissolve, and be discharged; but experience too often proves that this process involves considerable danger; danger of hæmorrhage first, and afterwards of uterine phlebitis. With regard to the danger of uterine phlebitis from absorption of a putrid ovum, it is sufficiently imminent to warrant interference if we are called early enough." Dr. Churchill does not recommend, but rather reprobates the use of instruments for the removal of the secundines, when the same benefits can be obtained by the fingers, as perhaps first recommended by Dr. Wainwright. Upon what grounds this reprobation is made we cannot conceive, for the judicious use of a proper instrument will produce as little, if not less disturbance, as the necessary manipulations of the fingers within the uterus. We are

tempted to quote here a remark by Dr. A. K. Gardner, in an able paper upon uterine hæmorrhage: "How shall the small and fragile placenta be seized hold of and withdrawn? Some have recommended the introduction of one finger into the uterus and bringing down one edge of the placenta, and twisting it round and round, not only thus to detach the entire mass, but to also so shape it that it may the more easily pass through the os. Where this can be done, by all means do so! But it should be remembered, that in the great mass of cases it is impossible to reach the os so as to pass one finger into the cavity; far less to effect any good result, if it arrive there, to say nothing of the utter impossibility of aiding the finger with the thumb of the same hand." (See *American Medical Monthly*, vol. iii., p. 441.)

We propose to give two cases; the first and last in which we have used Dr. Carey's instrument, which will fully illustrate the time and the circumstances when and in which we seek instrumental aid. The first case has been previously reported, but it none the less subserves our present purpose.

CASE I. June 18th, 1857, we were called to see Mrs. M., aged 40 years. We found her sitting up, and she said she was feeling very well. A few hours before, she had miscarried, at three and a half months, with but trifling pain and no hæmorrhage. She had previously borne several children, the youngest of which was now ten years of age. The placenta had not come away, and it was on that account that she sought medical aid. On examining the case per vaginam, we traced the slender cord within the uterus. Mrs. M. was a very fleshy woman, of firm muscle, and the soft parts not having been distended by the passage of a full-grown child, resisted the introduction of the hand into the vagina. Pressing the hand firmly up, we could just introduce the end of the finger within the os uteri, but not sufficient to reach the placenta, or with the finger to depress the uterus. In our efforts at extraction, the slender placental cord was broken, after which the womb seemed to float before the finger, and all further efforts at extraction, with unaided fingers, were utterly useless. There was no hæmorrhage, and consequently no necessity for immediate action, but because of the extreme anxiety on the part of the patient to have the placenta removed immediately, and because our business would call us daily, for a few days, some ten or twelve miles away, were the above mentioned efforts made at extraction. We now gave ergot in full and repeated doses, utterly without effect. We now left our case as we found it, instructing the friends to lose no time in sending for us should hæmorrhage occur.

We had no idea of abandoning the case wholly to nature. Dr. Huston, of Philadelphia, says, "time, rest and opium are the grand remedies in abortion, for which there are no substitutes." We were disposed to give the patient the benefit of all these, while we took a little "time" ourselves to prepare for an emergency, which we had every reason to expect would soon come. We instructed our friend Fox, an ingenious gunsmith, to make an instrument, immediately, after Dr. Carey's model, which instrument was held in reserve for future use, when the urgency of the symptoms should demand active interference. During the night of the third day we were summoned, in great haste, to the bed side of our patient, who was reported as flowing profusely. Residing two miles away, of course some little time elapsed from the commencement of flowing to the time of our arrival. We went to the case with considerable misgiving; patient and persevering efforts for extracting the secundines had been fruitlessly made with unaided hands; no better result could be expected from a repetition of the effort, and we had yet to learn what confidence could be placed in the instrument which we were now prepared to bring to our aid. It was true, we could resort to the tampon, but this would only protract the case; it would not remove the placenta, nor insure against a recurrence of the hæmorrhage on its removal. We found our patient almost senseless and pulseless from loss of blood, and friends were weeping in an agony of grief at the prospects of her immediate dissolution. A dose of camphor and brandy was administered immediately, and we sat down to our patient without delay. The vagina was emptied of clots, and the hand was pressed firmly up, until the end of the finger reached the os uteri. Carey's instrument was now passed up, guided by the finger, until the claw entered the os; it was now turned to the one side, with the intention of bringing its convexity in immediate contact with the uterine walls, and then gently carried up to the fundus. From this position the instrument was made to sweep the entire cavity of the uterus, carefully keeping the polished surface of the convexity of the claw facing towards its walls. The instrument was now turned on its long axis and carefully brought down; the placenta was immediately felt in contact with the end of the finger, which was still kept in the os; with the finger acting as one blade of a pair of forceps, and the claw of the instrument as the other, the placenta was grasped and at once removed. The hæmorrhage immediately ceased, and the patient made a good recovery. Though the time was not accurately noted, it is presumed the placenta was removed in less than two minutes from the time of sitting down

to the patient. (See a former paper of ours in the *Western Lancet*, vol. xviii., p. 645.)

CASE II. October 10th, 1858, was called to see Mrs. B., a feeble woman of nervous temperament. She was deadly pale and almost pulseless from loss of blood. She had been flowing more or less profusely for the last three days, and had been attended, because of our absence, by Dr. Boyd. Ergot, acetate of lead, opium, gallic acid, and the tampon, had all been used with no permanent effect. The patient was supposed to be about six weeks pregnant, and, from the amount and persistency of the hæmorrhage, all hopes of saving the life of the ovum was abandoned. As soon as these facts were ascertained, we sat down to the patient, emptied the vagina of clots of blood, passed the finger to the os uteri, and then, along the finger, passed Dr. Carey's instrument into the uterus, and with the same manipulation as before described, the ovum was removed. The hæmorrhage immediately ceased, and the patient made a good and speedy recovery.

In the discussion before the Academy of Medicine, as reported in the October No. of the MONTHLY, several gentlemen present deprecated the use of instruments, while they commended the use of the tampon as safe and reliable; all, however, agree in the desirability of immediately removing the secundines, where hæmorrhage is profuse. We are disposed to question both the safety and reliability of the tampon. First, it is not reliable, because it does not remove the cause of the hæmorrhage, which is liable to recur at each removal of the tampon; neither does it perfectly and promptly arrest hæmorrhage, for, however thoroughly the vagina may be plugged, it is still capable of containing more or less blood, and often hæmorrhage will continue until the uterus is distended to the size which it had attained previous to the occurrence of abortion. Second, it is not always safe; for if the patient has flooded until there is imminent danger of immediate death, the cavity of the womb will not infrequently continue to receive blood, after the introduction of the tampon, quite sufficient to greatly enhance the danger, if not to prove actually fatal. It is needless to say that there is always an uncertainty attending the final removal of the tampon, and danger attending its too long use. There is always a liability of uterine inflammation from the presence of the placenta and clot in the uterus, and of phlebitis from the absorption of pus during the process of putrefaction.

Other members present preferred to trust the expulsion of the placenta to the influence of ergot. In the first case above reported, ergot

signally failed, and this was not the first time we have seen it do so, when our anxiety was wrought to the highest pitch by the imminence of the danger. Others have been so often disappointed, under like circumstances, as to doubt its influence entirely in promoting uterine contractions.

For ourselves, we do not doubt that a good article of ergot, when properly administered, will increase the force of uterine contractions in cases of labor, at the full term of uterine gestation. We would, however, say, that our experience justifies the conclusion that there is a difference between *increasing* the force of uterine contractions, when such contractions already exist, at the normal terminus of the gestation period, and in *originating* contractions, when nature is not making normal efforts in the same direction. Dr. Huston says, "the use of the ergot of rye, under these circumstances, is not without inconvenience," for it increases pain and nervous excitement, which are not infrequent and unpleasant attendants in these cases. Dr. Budd objects to the administration of ergot after severe hemorrhage, "as he has often found it a direct sedative." We presume that others have observed the same sedative action. The following is a case in point: Mrs. R., aged about 35 years, a widow, in very feeble health, has for several years been subject to occasional and profuse uterine hæmorrhages. She has received treatment at the hands of several physicians, with no permanent good effect. Four days ago, October 22d, we were called, in the absence of her attending physician, to prescribe. She was flowing profusely, and was very faint and quite exhausted. A diligent search discovered no cause of the hæmorrhage. Suffice it for our present purpose to say, that the tampon was used; cold water was injected into the bowels; acetate of lead and opium, gallic acid and turpentine, were administered by the mouth. The hæmorrhage would return with each removal of the tampon, though, it is true, less actively than at first. Yesterday morning the hæmorrhage began to increase again; the tampon, saturated in a strong solution of alum, was applied. We left two doses of fresh ergot (one drachm each), with directions that one be taken immediately, the other after an interval of six hours. Nothing else was advised. We were called to the case at nine o'clock last night, and found our patient complaining of universal numbness, and a deathly faintness at the stomach, similar to that which a large dose of opium will produce; yet we were assured that none had been taken. The pulse was reduced from one hundred to sixty, and the surface of the body was covered with a cold, clammy sweat. It is proper to say, there had been no hæmorrhage

since morning. From her feelings, the patient was positive internal hæmorrhage was going on. Quinine, with the compound aromatic powder, was administered in repeated doses, and to-day the patient is much improved.

We have reported this case simply to illustrate the depressing effect of ergot, which, in some cases, might enhance the danger of death.

Dr. Barker says the tampon in his hands, while it stays the blood for the present, excites uterine contractions, which expel the placenta when the tampon is removed. The tampon will not excite contractions unless placed within the cervix. It is true that the tampon should always be placed there; but our observations lead us to the conclusion that the vagina is its more general seat.

We fully concur with Dr. Barker when he says, "there is no question as to the propriety and necessity of at once removing the retained portion of the ovum. The only question is as to the best method of accomplishing this." Upon this last point our opinion has been expressed. The hook of Dr. Dewees should only be used when the placenta is wholly detached, and even then we think a better instrument could be selected. In abortion, when the placenta is wholly detached, we think hæmorrhage is extremely rare; for we have seen hæmorrhage cease on separating the vascular connection between the womb and placenta, even before the latter was expelled. The forceps of Dr. Bond we consider but little better, and, in some hands, might be even more objectionable. The polished and convex surface of Dr. Carey's decidual separator is admirably adapted to glide along the inner surface of the womb, and, with a little management, to separate the placental attachment. We now use it *without delay* for the removal of retained secundines, after abortion, *when any considerable hæmorrhage is present;* and we have seen and can see no possible danger from its judicious use. Instead of making it, in such cases, our *dernier*, we make it our first resort. We have little doubt but that the uterus will invariably contract, on the removal of the secundines *in abortion*, yet from habit we almost invariably give ergot.

Cases of Wounds of the Abdomen. By REED B. BONTECOU, M.D. *Troy, N. Y.*

1. *Gun-shot Wound.* Aug. 16th, 1854. Was called to see a lad, aged about 12 years; found him lying on his back with knees drawn up, and suffering great agony. Examined the abdomen and found a

gun-shot wound about two inches above the umbilicus, a little to the left of the mesian line. The integuments were much burnt and lacerated, the weapon having been discharged while in contact with the person. The ball passed through the body, leaving a small wound between the eleventh and twelfth ribs, about three inches to the left of the spine. From the anterior wound a mass of omentum protruded, with a knuckle of intestine. These were immediately returned, and the wounds closed with adhesive plaster and girth. The boy was still suffering from the shock of the injury, and I gave stimulus in connection with morphine in solution, ¼ gr. to the dose, once in thirty minutes. I saw him again in two hours; found him still suffering great pain; prescribed 4 gr. doses of opium every two hours till pain should be subdued and sleep obtained. A considerable venous hemorrhage occurred from both wounds.

17th, 8, A.M. Found the little patient more comfortable, but unable to extend the limbs. Skin moist; tongue coated with a thin, pale fur; pain all over the belly on motion, and tenderness to the touch, but easy when lying quiet. Had passed urine; no movement of the bowels, and no sleep. Ordered the 4 gr. powder of opium continued every three hours, and such fluid nourishment as he desired. 6, P.M. Had slept four hours in the afternoon; seemed comfortable, and was perfectly conscious; contracted pupils. Conversed freely with his mother; complained of uncomfortable tightness of the abdominal bandage. Abdomen was somewhat full and was dull on percussion; external hæmorrhage had nearly ceased. There was doubtless a large clot in the peritoneal cavity. His pulse was about 100; was obliged to keep his limbs flexed, and still complained of pain on motion. Prescribed 5 grs. of opium every four hours; broth for nourishment.

18th, 8, A.M. The boy had slept some during the night and sweat profusely. His mother said he snored and slept heavily. He is perfectly conscious, and presents no very marked evidences of narcotism, except the contracted pupil and itching of the skin. Conversed rationally; has no appetite nor great thirst; pulse 90; skin moist; tongue moist; abdomen tympanitic; urine scanty; had taken three of the powders during the night. There was still some venous oozing from the wounds and dullness over the left half of the belly. Complained of sense of distension of the abdomen. I was fearful some portion of the colon, duodenum or ilium was wounded, and did not order any laxative, but continued the powders as before, 5 grs. every four hours.

18th, P.M. Found patient quite comfortable, being then able to

move and extend his limbs; his pulse had got down to 70 per minute, and he was sweating profusely; not much thirst and no desire for food. The opium was beginning to stupify him. He was disposed to sleep most of the time, but was easily roused, and was rational when awake. Ordered beef tea, and diminished the doses of opium to 4 grains, to be given once in six hours.

19th, A.M. The little fellow was quite as well as on the previous evening, with no marked indications of peritoneal inflammation; no hæmorrhage, except slight venous oozing. His father (the captain of the canal boat on which he was) found it necessary to leave with his boat for Buffalo. I urged his parents to leave him with me at the Troy Hospital, which was at that time under my charge, hoping that he might be saved, as he had gone on thus far surprisingly well. But they would not leave him, and I prepared some opium powders of 4 grains each, with as minute directions as possible respecting the treatment which should be pursued till they reached their destination, or some place where surgical attendance could be obtained. I have never since heard of the patient, and cannot therefore say if recovery took place. He certainly had a chance, and the opium undoubtedly kept at bay peritoneal inflammation.

2. *Incised Wound.* Oct. 23d, 1854. A colored boy, eighteen years old, was brought to my office from the steamboat at night. He was in great distress, vomiting incessantly. Considerable hæmorrhage was taking place from an incised wound of the abdomen, two inches above and a little to the left of the umbilicus, which was inflicted with a dirk knife a few moments before. Upon examining the wound, which was one inch and a half in length externally, I found the rectus abdominis two-thirds divided, and a large rent through the oblique muscles into the peritoneal cavity. Some omentum and a knuckle of intestine protruded externally, and the violent efforts at vomiting forced out a foot or more before I could control the opening. The parts were returned and the wound closed by suture. There still remained a large hernia, the size of a cocoanut, which I attempted to keep in place by a band of adhesive plaster, eight inches wide, passed entirely round the body. He was then conveyed home, where I shortly afterwards saw him. There was no evidence that any of the viscera were seriously wounded. I feared, however, peritoneal inflammation, and prescribed opium, pulv. grs. 10, every four hours for the succeeding twelve hours.

The morning of the 25th I found him on my visit complaining of general tenderness of the abdomen and inability to extend his limbs,

or cough, or take a long breath. The pulse had risen from 50, which it had been the preceding day to 95; was rather wiry; the wound was not painful. Ordered 8 grs. opium every third hour and hot fomentations, which had the effect of reducing the pulse and diminishing the tenderness, without inducing narcotism.

25th, 9, P.M. My third visit on that day. Pulse 78 and abdominal tenderness much less. Could extend his limbs somewhat; pupils contracted; skin itching; was rational and felt no thirst or nausea. Prescribed 10 grs. opium every five hours.

26th, 8, A.M. Had taken 20 grs. opium since last visit; pain of belly had subsided, except about the wound, which I dressed, removing the sutures and bracing him up well with a girth of adhesive plaster. He was disposed to be drowsy, and I reduced the powders to 5 grains every five or six hours.

9, P.M. During the afternoon had several profuse watery discharges from the bowels. The abdomen was flaccid, and there appeared no trace of inflammation, except at the wound. The diarrhœa continued to annoy him for several days, but was generally relieved by tannin and opium and acet. plumb. and opium in liberal doses. I continued daily attendance till the twelfth day after the accident, during which time nothing extraordinary occurred to interrupt his convalescence. He has ever since been obliged to wear a support about the abdomen, to keep his intestines from protruding largely on the left side.

Diphtheritis: The Epidemic Malignant Sore-Throat prevailing in Albany, N. Y.

[We are indebted to the correspondent who has furnished us with the following discussion upon the severe epidemic now prevailing in Albany, which embraces the remarks of several distinguished physicians of that city, who have witnessed its characteristics. We shall be glad to have a more detailed account of some of the cases.—Eds. Monthly.]

The Albany Co. Medical Society had a special meeting on Tuesday, Nov. 16, 1858, to discuss the epidemic now prevailing in Albany, N. Y. There was a large attendance of the city and county physicians, and a number from the neighboring cities and villages, among whom were Drs. Bontecou and Brinsmade, of Troy—the latter, the accomplished President of the State Medical Society. The President, Dr. S. D. Willard, was in the chair. The discussion was opened by Dr.

Vanderpool, of Albany, who gave a clear and succinct account of the prevailing epidemic, as seen in his practice. His description of the disease accorded in every particular with Wood's "Pseudo-Membranous Inflammation of the Fauces Diphtheritis"—*Practice, 3rd Ed., Vol. I., pp.* 521 *et seqr.* His practice was simple: an emetic to cleanse the stomach and fauces of vitiated secretions, gargles of dilute vinegar, and the mineral acids and tonics very early in the disease to counteract the tendency to the typhoid condition. He had met with but few fatal cases, and in every instance the disease had implicated the larynx, trachea, and bronchiæ, and the patients had died as in true croup. He had benefited and doubtless saved many by removing the vitiated secretions from the fauces and nares with sponges, a feather or a camel's hair pencil, and the early and persistent use of tonics, stimulants, and nutrients.

Prof. Townsend followed with a translation and rescript from the latest French Journals on Diphtherite. The paper was elaborate, and contained much valuable information, especially in reference to the use of the chlorates of potassa and sodium as gargles, and the use of a silver tube, bent, and introduced into the larynx through the glottis. After the reading of the paper the discussion became general. Dr. Delamater had had 40 cases, 4 fatal, with 4 *post-mortems*. The larynx, trachea and bronchiæ were found lined with a diphtheritic exudation, readily separated from the mucous membrane, which was found entire except upon the tonsils, which were excavated, enlarged and much congested. The secretions were copious, offensive, and very acrid. In one fatal case gangrene of the uvula had taken place. Dr. Freeman mentioned a case where the entire epiglottis was coughed up a few hours before the patient, a young man, died of gangrene of the entire pharynx. Dr. Harris mentioned one case in which the entire palate and a portion of the arch on one side was removed with the forceps. The patient, a young man, died a few hours after in a typhoid condition. Dr. James McNaughton, the Nestor of the profession in Albany, narrated the particulars of a large number of cases which he had seen in consultation, where gangrene of the tonsils, uvula, palatine arches, pharynx and glottis had taken place. He raised the question of its relation to scarlatina, and inquired if any cases of the latter disease had been observed in the city. But few cases had been treated during the last four months. Cases were reported of the epidemic sore-throat occurring in patients who had had scarlatina a few months previous.

Dr. McN. had noticed an amelioration of the disease during the

past few weeks, and also spoke of the fact that adults were now the subjects of the disease which had previously confined its ravages to children. Males were more subject to attacks than females. No mention was made of a second attack in the same patient. The disease is less malignant than at first, but is still serious, as the mildest cases are liable to lapse into a malignant and typhoid state.

Dr. Brinsmade, of Troy, is endeavoring to procure an account of the disease, accompanied by statistics, *post-mortem* appearances, &c., and will doubtless receive the hearty co-operation of the profession of Albany.

The discussion was animated and very able, placing the experience of the various participants within the reach of every member of the Society. R.

Report on the Formation of Glucogenic Matter in the Animal Economy, made to the Academy of Medicine. By M. Poggiale.

At the meeting of March 23, 1857, M. Cl. Bernard read a memoir before the Academy of Sciences, on the physiological mechanism of the formation of sugar in the liver. The object of this communication was to announce the existence of a peculiar substance, which he called glucogenic matter, and which was readily converted into sugar, in the presence of ferments, or by the liver in a physiological condition.

In accordance with the experiments related in this memoir, Bernard states, "that the livers of dogs, fed exclusively on meat, possess the special property of forming a glucogenic substance analogous to vegetable starch, and alike susceptible of an ultimate transformation into sugar by passing through the intermediate condition of dextrin." In the herbivora, the glucogenic matter is also produced in the liver, but the physiologist does not doubt but that it is formed there not at the expense of the amylaceous materials. In the liver there should consequently be, with these animals, a permanent source of glucogenic matter, while in the amylaceous food there would be an intermitting source.

The discovery of this substance constitutes, undoubtedly, one of the most important facts in animal physiology; and it was received with the most intense interest by the scientific world. Bernard's conclusions were not, however, accepted by every one. On May 25, 1857, M. Sanson, of Toulouse, sent a paper to the Academy, entitled *Memoir on the Physiological Formation of Sugar in the Animal Economy,*

in which he endeavored to prove that there exists in the blood of the abdominal circulation, as well as in the tissues of the principal organs, a substance analogous to dextrin, and susceptible of conversion into glucose under the influence of diastase. Dextrin in the blood would have its origin with the herbivora, in the action of the saliva on the amylaceous principles of the food, and with the carnivora in the food employed by them for nutriment, where it would be met already formed. In fine, the liver, in no case, would secrete either sugar or glucogenic matter.

The experiments which formed the subject of this memoir, had been made on the larger herbivora, thus differing in this from those of M. Cl. Bernard, which had been made on dogs fed with meat. In the course of the year 1857, Sanson addressed different notes to the Academy of Sciences and the Academy of Medicine, in which he related some new experiments, corroborative of the conclusions set forth in his first memoir.

The Academy charged MM. Longet, Bouley and Poggiale with the examination of these communications, and the preparation of a report on the experiments relating to the formation of glucogenic material.

The formation of glucogenic matter and of sugar in the animal economy is certainly one of the most interesting and curious questions in physiology; so that, for nearly a year, we have spared no labor to arrive at a definite conclusion. The resources of the schools at Alfort and Val-de-Grace, have been placed at our disposal; numerous experiments have been made on the carnivora and on the larger herbivora in different conditions, and, without pretending to determine definitely the laws of animal glucogenesis, we hope to set forth certain causes of error due to the proceedings employed, and to give to glucogenesis a simplicity which late experiments had removed from it. We shall expose all the facts we have observed, and we hope that the Academy will approve the conclusions that we have the honor to present.

What process should be employed for the removal of glucogenic matter? What is the nature of that substance? Can it be found in the carnivora, in any other organs besides the liver? Whence comes the glucogenic matter which is existing always in the liver? Is it formed exclusively by the liver, or is its source in the amylaceous substances of the food? Does it exist in all the organs of the herbivora, and what is the influence of the food on its production? These are the important questions that we have endeavored to solve in this work.

What is the best process for the extraction of the glucogenic substance? In his first memoir, M. Cl. Bernard gave the following process for the extraction of the glucogenic matter: The liver is cut into very thin slices, that are immediately placed in boiling water, in order that the glucogenic substance may not be converted into sugar on account of the presence of its ferment. The portions of the liver thus coagulated are rubbed in a mortar, and are then boiled for about an hour in a quantity of water just sufficient to cover them. This is then expressed, and the liquid passed through a filter, appearing of an opaline hue. This liquid is immediately mixed with four or five times its volume of absolute alcohol, when there is formed an abundant flocculent precipitate of a blueish-yellow color, which should be received on a filter and washed several times with alcohol. In this way there is obtained the impure glucogenic substance mixed with azotized matter. Its aqueous solution is colored by iodine, is not reduced by the cupro-potassa test, and does not ferment with yeast. In order to remove the foreign substances it retains, it is boiled in a very *concentrated* solution of caustic potassa for half an hour; a little water is then added, and it is filtered. The solution is precipitated a second time by the addition of four or five times its volume of alcohol. The precipitate being received on a filter, is submitted to repeated washings with alcohol, in order to remove the potassa. The substance thus prepared contains still some carbonate of potassa, which is insoluble in alcohol; and hence it is indispensable that it should be dissolved in water, that the carbonate of potassa should be saturated with acetic acid, and that precipitation be produced a third time by alcohol. The acetate of potassa will remain dissolved in the liquid, while the glucogenic matter, separated by filtration, will be perfectly pure.

Such is the proceeding first employed by Bernard; we have given it because it has been the cause of certain errors. In fact, when boiling caustic potassa is made to react on albuminous substances, it produces a small quantity of a substance which is transformed into sugar in the presence of sulphuric acid, and which, after this conversion, ferments and reduces the solution of tartrate of copper in potassa. The purification of the glucogenic substances, requiring the employment of caustic potassa in the first process of Bernard, enables us to understand the difference in the results obtained by this physiologist and those published by M. Sanson, and to which we wish, in a subsequent portion of this article, to call the attention of the Academy.

It is important to add, however, that in using the reaction of caustic potassa on albuminoid matter, there is formed but a small quantity

of glucogenic matter, and sometimes none at all. At a boiling heat the caustic alkali destroys the greater part, and sometimes the whole of the product formed. To obtain a larger quantity of sugar, it is necessary to carry on the process, protected from the atmosphere, and to determine with care the quantity of potassa employed and the duration of the experiment. This will be a most interesting subject of study.

Bernard, wishing to avoid the use of energetic agents, has proposed a very simple method of separating the glucogenic substance. It consists in pouring a large excess of crystallizable acetic acid into a very concentrated and filtered decoction of the organ (whether liver or muscles) that is to be examined. Speedily there is separated a whitish precipitate, which consists of glucogenic matter, the albuminoid substances being soluble in acetic acid. When the organs do not contain any glucogenic matter, acetic acid will produce no appreciable precipitate. We have, however, sometimes obtained, with decoctions of animal substances, a whitish deposit which did not contain a trace of glucogenic matter. The white substance, which is deposited in the crystallizable acetic acid, possesses all the characteristics of glucogenic material; thus, mixed with the saliva, it is immediately transformed into sugar, and the transparent liquid obtained possesses the property of fermentation, and will *reduce* solutions of copper. In this process, as in the preceding, it is indispensable to obtain the products of fermentation in order to determine the presence of the glucogenic matter. This proceeding presents undoubted advantages; it enables one to recognize easily, and in a few minutes, if the different tissues of the organism contain this substance. Acetic acid does not destroy albumenoid substances, and does not render the observer liable to create the substance which he is seeking. We have followed this process in our decisive experiments.

What is the nature of glucogenic matter? The composition and characteristics of glucogenic matter justifies its being placed in the group of ternary substances, such as cellulose, starch and dextrin. Indeed, being analyzed by M. Eugene Pelouze, it gave the following result:

Carbon,	39 8.
Hydrogen,	6 1.
Oxygen,	54 1.
	100 0.

Corresponding to the formula, C_{12} H_{12} O_{12}

It is neutral, white, pulverulent, inodorous, insipid, soluble in water, but insoluble in alcohol or acetic acid. Aqueous solution of iodine, mixed with its solution, produces a violet color, or a redish chestnut. The liquid is decolorized at a temperature of about 80° C, but resumes its primitive color, like iodide of starch, when it is allowed to cool. This substance does not reduce the cupro-potassa solution, and does not ferment under the influence of yeast; but if it is boiled along with mineral acids diluted with water, or if it is placed in contact with diastase and saliva, it is converted into sugar, and then acquires the property of fermenting and reducing the salts of copper. The opaline solution having become transparent, it is then no longer capable of being colored by iodine, or precipitated by crystallizable acetic acid. It is converted into xyloidine by the action of fuming nitric acid. Like xyloidine obtained from starch, it is combustible, and detonates with flame when it is heated at a temperature of 180° C.

Is this substance starch or dextrin? The *ensemble* of its properties place it between the two. Besides, whether it be starch or dextrin is a question that seems to us offers little interest in a physiological view. It is especially important to know if this substance is transformed into sugar under the influence of acids or ferments, and upon this point science is firmly fixed.

Does glucogenic matter exist in other organs, besides the liver in the carnivora? We know that the food of man and animals is composed of organic substances, both azotized and non-azotized, of fatty matters and mineral substances. Observation and investigations made during twenty-five years by chemists and physicians demonstrate that nitrogenous food preserves the organs, produces force, and serves for the development of animals; that fatty, saccharine and amylaceous substances constitute, on the other hand, respiratory elements whose carbon and hydrogen, uniting with the oxygen of the air, maintain animal heat. This theory, however, which is true in its generality, and which has rendered distinguished service to physiology, is not rigorously correct. If amylaceous food is readily converted into sugar, it is also certain that nitrogenized food can, in the carnivora, furnish in their turn this principle. The experiments of M. Cl. Bernard, and those which one of us made three years since, on the milk of three bitches, exposed exclusively to a meat diet for 21 days, enable us to affirm that sugar can be formed at the expense of nitrogenous substance. The organism, in default of amylaceous or saccharine substances, decomposes albuminoid principles, and converts them probably into glucogenic matter, into urea, and other products which are combustible.

Chemists have obtained in the last few years a somewhat large number of *dedoublements*, which enable us to understand the convertion of nitrogenous food into ternary substances. Animals, like vegetables, thus can, under certain circumstances, create immediate principles, and their rôle does not only consist in destroying those which are furnished them by vegetables.

From these considerations, it follows that glucogenic matter, and from necessity sugar also, both in man and animals, are furnished by the food, or are formed in the organs. In order to determine, then, if the formation of this substance takes place alone in the liver, or in all the organs, it is necessary to experiment first with the carnivora, where this substance does not occur in the food. To do this we have fed dogs exclusively on meat, and have then sought for the glucogenic substance in the tissue of the liver and in that of the other organs of the economy.

First Experiment.—A young and active dog was fed for twelve days on boiled meat; then, after some hours of abstinence from food, he received a copious repast of boiled meat. He was then killed during full digestion, and the glucogenic substance was sought after in the liver and the muscles in accordance with the second process of Bernard.

1st. The liver was washed by passing a current of cold water through the vena porta, then cut into small pieces, and a very concentrated decoction made of it. The result was a whitish liquid containing no sugar.

2nd. Equal quantities of this liquid were introduced into two tubes of glass. Into one of them the cupro-potassa solution was poured, it was then heated, but there was no reduction. To the other saliva was added, and slight heat employed; soon the turbid liquid became clear, and reduced the copper salt. It is important to remark here that the proof of the presence of sugar cannot be furnished except by the alcoholic fermentation, and that the reduction of the cupro-potassa liquid should only be considered as a presumptive sign.

The phenomena of reduction and coloration produced by organic substances are often deceptive, and because this important fact has not been recollected, grave errors have been committed in late investigations. When the liquid to be tested contains substances which behave as glucose—such as lactine, dextrin, uric acid, and a great number of other organic substances—then the investigation for sugar by the salts of copper becomes impossible. It should not be forgotten when we employ the tartrate of copper and potassa, that albuminoid substances precipitate the oxide of copper and consequently decolor-

ize the liquid; and that all the reduction agents, such as sulphurous acid, arsenious acid, the sulphites, hyposulphites, aldehyde, chloroform, &c., can reduce it. M. Barreswil has declared recently, that the reagent proposed by him for the recognition and determination of sugar has no absolute value. It is, he says, a reagent, like the greater part of those we employ in our laboratories, which, in certain determined cases, suffice to characterize a substance, and which, in others, are only important signs needing confirmation.

3d. Ten grammes of the decoction of the liver being placed in a tube, yeast was added to it and the temperature was slightly elevated, and soon the escape of carbonic acid became manifest. Ten grammes of decoction without the previous addition of saliva, being treated in the same way, no fermentation was observed.

4th. Aqueous solution of iodide communicated a violet brown color to the decoction. At 75° C, the liquid was decolorized, and by a reduction of the temperature, it regained, like iodide of starch, its primitive color. The decoction treated first by saliva or by dilute sulphuric acid was not colored by the aqueous solution of iodide.

5th. A large excess of crystallizable acetic acid was poured into the decoction of the liver, and a whitish deposit was obtained, presenting all the characteristics of glucogenic matter. A portion of this same decoction being mixed with saliva, then, on the addition of acetic acid, no precipitate was produced. The glucogenic substance was, in fact, converted into glucose.

6th. Muscle, lungs and spleen of the dog being subjected to the same operations, in none of them could the presence of glucogenic matter be detected. There was no fermentation, no reduction, no colorization by iodide water, no sensible precipitate by crystallizable acetic acid.

Second Experiment.—Another dog being fed exclusively on meat for eight days and then killed, an examination was made of the liver, blood and muscles, according to the process first recommended by Bernard. The impure glucogenic matter in the liver being well washed, was colored by iodide water. After the action of saliva and sulphuric acid, it reduced the cupro-potassa solution and fermented with yeast. No like effect was observed in operating on the blood and muscles.

These experiments, and others which we need not report here, show that in experimenting on dogs fed on meat the results are very distinct, and that the glucogenic substance is *only* met with in the liver. M. Sanson, however, in his third memoir on the physiological formation of sugar in the animal economy, affirms that he has found in the

blood of a dog supported on meat, a substance absolutely identical with the hepatic glucogenic substance in its physical and chemical properties; that is to say, capable of transformation into fermentable sugar. While using the reaction of caustic potassa on albuminoid substances, nothing remarkable was obtained; but on the contrary, his result agrees with that we have announced in this respect. According to this observer, the flesh of the herbivora contains the elements necessary for the formation of the sugar, which is spontaneously produced in the structure of the tissues by a direct chemical action. One of us has already shown, in a work published in 1855, that the meat does not furnish the sugar found in the blood. This fact is now admitted by every one. We have since sought for the glucogenic substance in butcher's meat, and declare, that in twenty experiments we have only found it once.

It follows, from our experiments, that the glucogenic substance which we meet in such large quantities in the liver, is not furnished in the food to the carnivora. In the present condition of the science nothing more can be proven.

Does the glucogenic substance exist in all the organs of the herbivora, and what is the influence of food on its production? When we experiment on animals nourished exclusively on meat, observation has shown that the glucogenic substance only exists in the liver, and the results of these experiments do not admit of a doubt. It is not the same with herbivorous animals who take a greater or less quantity of saccharine and amylaceous articles of food, which makes the problem more difficult to determine. In the first memoir addressed to you, M. Sanson declares that the experiments which formed the subject of that work had been performed on the larger herbivora. If in that, he says, they differ from those of Bernard, who made his on dogs fed with meat, it cannot alter their significance. In an early experiment, Sanson found in the tissue of the spleen, the lungs and the kidneys, treated according to the first process of Bernard, a substance absolutely similar to that obtained from the liver. It was soluble in water, was colored by iodide water, was transformed into sugar, did not exercise any action on the cupro-potassa solution, and fermented by the action of either diastase or yeast. The results of this experiment allowed of the supposition that the glucogenic substance was carried into these organs by the blood. Hence it was important that this liquid be examined. For this purpose, M. Sanson used bleeding at the jugular vein of a horse; the blood discharged was immediately coagulated in boiling water, and then treated by the usual process. This new experiment

also furnished the glucogenic substance. The same result was obtained with arterial blood and with that of the vena porta. It is then almost certain, says Sanson, that all the tissues in the body should contain this substance, since the blood contains it. But to throw still more light on this question, this observer has submitted to the tests before mentioned the muscular tissue of the dog, and has obtained a white curdy substance presenting all the properties of glucogenic matter. Thus, muscular tissue contains, like that of the other organs, a substance which is convertible into glucose by acids and diastase. It is then permitted us to conclude, adds Sanson, that in the experiments made on animals nourished with meat, there has been furnished these animals an aliment containing a substance capable of conversion into sugar.

We have repeated the experiments of Sanson, and readily recognized that the glucogenic substance is sometimes encountered in all the organs of the herbivora, and markedly so in those of the horse. We have ascertained that, under certain circumstances, the food may carry into the animal economy modified amylaceous matters which can then be readily detected in the blood and muscles. On this point we agree with M. Sanson; but we cannot admit, with him, that the glucogenic substance is *always* furnished by the food. Before narrating the experiments upon which our opinion rests, it is important to remark that we have precipitated the glucogenic substance by crystallizable acetic acid, while M. Sanson will recollect that he employed caustic potassa. This is an important fact, which must not be lost sight of in this discussion. But, over and above this cause of error, we have recognized that the glucogenic substance can pass through all the organs when alimentation is rich in amylaceous substances.

A rabbit was fed on carrots and luzerne—being killed at the end of 15 days, a considerable quantity of the glucogenic substance was detected in the liver, whilst it was impossible to recognize the least trace in the other organs. This experiment, which we have repeated several times, establishes clearly the fact that in rabbits, fed on food poor in starch, the glucogenic substance can only be detected in the liver. But if the carrots be replaced by grain—by oats, for example—at the end of some days the presence of the glucogenic substance can be detected in the blood and the tissues in very variable quantities, although less than in the liver. In two experiments made on rabbits fed on oats, we were able only to recognize traces of glucogène. We have also determined the presence of glucogène in horses fed on oats, at Alfort, not

only in the liver, but also in the other organs. It would be interesting to examine, if, under the influence of an alimentation poorer in starch, glucogène could in like manner be detected in all the organs of the horse. On the other hand, however, we have recognized that in horses, subjected for some days to complete abstinence, the glucogène diminishes considerably in the muscles, although it still exists in notable quantity in the liver.

In a late series of experiments, we have sought for glucogène in the flesh of the beef, the horse and rabbit fed in the ordinary way, and we have never met it in the rabbit. We have only found it once in butcher's meat, although it seems to exist always in the muscles of healthy horses. These differences belong probably to the kind of food, and do not prove that the formation of glucogène is accomplished in all the tissues. Whatever might be the food, and whatever the animals upon which we operated, we met constantly a large quantity of this substance in the liver, whilst its presence in other points of the organism is accidental, and is only due to certain physiological conditions that we can generally modify.

Experiments made by M. Sanson in the presence of the Commission.—The experiments just given were finished when M. Sanson, who has been in Paris for a short time, expressed a desire to repeat some of his experiments in the presence of the commission. We accepted with pleasure this proposition. Four experiments were performed by this chemist in the laboratory of Val-de-Grâce, and the following are the facts which the commission has carefully collected:

First Experiment.—Twelve hours after the slaughter, 1 kilogramme of beef was taken and divided into very thin slices, which were quickly thrown into boiling water in order to convert the glucogène into sugar. The pieces of coagulated meat were then boiled with a small quantity of water, expressed, and the liquid obtained was filtered. This liquid was divided into three portions, and exposed to the following tests: 1st. One portion of the decoction was mixed with an excess of crystallizable acetic acid, without the formation of an appreciable precipitate. 2nd. In a tube of glass, another portion was poured along with some saliva; it was then slightly heated for seven or eight minutes, and yeast was added. A similar experiment was made without the addition of saliva, and there was obtained in both cases some small bubbles of gas. But, in a comparative experiment with distilled water and yeast, the same quantity of gas was produced, showing that in the two previous experiments the gas was furnished by traces of sugar, or of starch contained in the yeast employed.

Second Experiment.—We operated as before, on all the muscles of a rabbit, fed on carrots and luzerne, and the results were exactly the same.

Third Experiment.—A concentrated decoction was made of 750 grammes of mutton, two hours after slaughter. The liquid filtered was successively mixed with saliva and yeast, suitably washed, without any fermentation. A portion of this liquid was treated with crystallizable acetic acid, and there was formed a white deposit which contained no glucogène. In fact, it was not transformed into sugar by the saliva, and it did not ferment under the action of the yeast. Being placed in a tube with distilled water and yeast, there was no disengagement of gas; although in another tube, under similar circumstances, a little glucose being added, at the end of a few minutes the yeast produced a very active fermentation.

Fourth Experiment.—The tests employed in the third experiment were repeated on the muscular tissue of a rabbit without any different results. It follows, hence, from the experiments made by M. Sanson, himself, that beef and mutton, and the flesh of the rabbit, do not contain, normally, glucogène.

Conclusions.—The experiments that we have summarily set forth in this report justify us in presenting the following conclusions to the Academy:

1st. The separation of glucogène by the aid of crystallizable acetic acid is preferable to the process originally employed.

2d. A concentrated decoction of liver, muscle, &c., mixed with saliva, and slightly treated, will ferment in the presence of yeast if it contains glucogène. It is necessary previously, to ascertain that it contains no sugar.

3d. The properties of glucogène seem to place it between starch and dextrin.

4th. When experiments are made on dogs fed exclusively on meat, glucogène is only met with in the liver. In the actual state of the science, and without pronouncing an opinion on the theoretical question, we are obliged, then, to admit, that in the carnivora this substance is produced *in* the liver, and that it is *not* formed in the tissues of the body.

5th. Glucogenic matter is abundantly met with in the livers of the herbivora. It can only be found in the other organs of the economy when such animals are fed with food rich in amylaceous substances.

6th. In a great number of experiments we have only once detected the presence of glucogène in butcher's meat. In other experiments

we have constantly found it in the muscles of healthy dogs; but this interesting fact, which is due to the researches of M. Sanson, does not prove that glucogène is only furnished by the food.

7th. In conclusion, your Commission has the honor to propose that your thanks be given to M. Sanson, and that his memoirs be deposited in the archives of the Academy. L. H. S.

Crotonol. Translated from "Le Moniteur des Hopitaux."

Crotonol is the vesicating principle of croton oil, being a colorless, terebinthinate substance of a peculiar odor. Croton oil contains four per cent. It resinifies in contact with caustic potassa and soda, and loses the irritant action which it possesses on the skin. Submitted to ebullition along with water or dilute sulphuric acid, it is converted into an oil with the odor of humus, which is volatilized by the aid of steam. The oil is insoluble in water. Immediately after distillation it is colorless, although it slowly becomes brown and then black. If crotonol is so little permanent that it can be decomposed by boiling water, it cannot be the same as croton oil, which even prolonged ebullition will not deprive of its acidness. Hence we must conclude that if croton oil contains crotonol, the latter is not present as a simple mixture.

Schlippe finds it impossible to assign a rational formula for crotonol, and represents it by the formula $C_{13}\,H_{14}\,O_4$, and says that it presents analogies with the cardol which Stædeler has obtained from the balsam of Anarcardium.

When croton oil is agitated with an alcoholic solution of soda, the acrid principle is entirely removed and is concentrated in the alcoholic solution. In order to isolate it, the oil which swims on the solution must first be removed; this is then treated with a dilute solution of chlorhydric acid, which causes the separation of an oleaginous substance that must be dissolved in alcohol, and then agitated along with hydrate of lead. A flocculent precipitate then takes place, which changes by degrees into a viscous mass. When all acid reaction has ceased, this is treated with a weak solution of soda; the liquid becomes turbid and then clears up, depositing a limpid oil. Large quantities of chloride of calcium must now be quickly added. The oil is then washed with a copious supply of water on a moistened filter; an ethereal solution is made, which is agitated with water, then decanted and caused to evaporate in a vacuum. The product constitutes *crotonol*, or the vesicating principle of croton oil. L. H. S.

Sources of Error in the Determination of Sugar in the Urine.

It has been shown by Leconte, Bonnet and Berlin, that the potassa-copper liquid, employed in the investigation of the presence of glucose, may undergo, on the part of uric acid, a reduction analogous to that effected by the glucose itself. Babo and Meissner have lately shown that, in such reduction, allantoine is formed, a part of which is converted into urea and oxalic acid.

The coloring matter of the urine is without action on the reagent in question, as is the case with creatine, creatinine and hippuric acid. It is certain, however, that a reduction may be effected by the volatile organic acids.

A constant cause of the reduction has just been discovered by Brucke, which is glucose itself, this substance being always present in normal urine. The author insists on this opinion, since it is not based upon the nature of the products of decomposition, but upon the production of a direct compound of the sugar with potassa—a compound already employed by Lehmann in his examination of sugar in the blood. The process for demonstrating the presence of sugar in normal urine demands great care, and is as follows: Absolute alcohol should be added to the urine so that it may constitute four-fifths of the whole volume. The author of this process ordinarily operates with 200 centilitres, although, with care, 50 centilitres would answer. By the addition of the alcohol the mixture becomes turbid, and a precipitate is produced that can be separated by means of a filter. To the clear liquid an alcoholic solution of potassa is then added, constant stirring being used, until red litmus paper is distinctly blued by the mixture; after which it is allowed to rest for twenty-four hours in a cool place. At the end of this time the liquid is decanted with care, and the glass is reversed on *papier buvard;* when the latter becomes dry, the glass is placed mouth upwards, and suffered to remain until no more alcoholic odor is exhaled; then it will be found that the bottom of the vessel and a portion of the sides will be covered with a crystalline layer, which represents the saccharate of potassa in question. The deposit is rich when it gives the glass a frosted appearance; on the contrary, a clotty or granulated crystallization indicates the presence of foreign matters.

Saccharate of potassa is very soluble in water· and with such a solution it is easy to perform the different experiments necessary for the determination of glucose—experiments too well known to require their mention here.—*Jour. de Pharm. et de Chémie.* L. H. S.

Modern Investigations on Fluorine

Professor J. Nicklès, of Nancy, has been studying the subject of Fluorine and its presence in inorganic and organic matter, and the results of his labors have been presented to the chemist and physician in the columns of the *Journal de Chémie Médicale*. The following are the conclusions set forth in his interesting paper:

Fluorine exists in the blood in very small quantities; also in the urine and the bones, although in less quantities in the latter than has generally been asserted. Berzelius asserted that fluoride of calcium formed three per cent. of calcareous matter; but Nicklès has ascertained that there is hardly 0.05 grm. of the fluoride in a killogramme.

The sources whence the animal organism obtains its fluorine are as follows: The various potable waters and vegetable substances, although some of these contain fluorine in such small proportion that it is necessary to operate with, at least, *one* killogramme of ashes, and with the product of the evaporation of some thousand litres of water. The organism can also, by accident, derive fluorine from mineral waters, all of which contain a very large proportion of fluoride as compared with ordinary potable waters. This circumstance may explain the efficaciousness of certain mineral waters which are only slightly mineral in their character, such as the waters of Plombières, Mont-d'Or, Sultzbad, &c.

The water of the Seine, taken at Paris, is one of those containing the smallest amount of fluorides. That of the Somme, taken at Amiens, is, of all the rivers of France, richest in fluorides. All mineral waters are not equally rich in fluorides; the richest of those examined by Nicklès being the water of Contrexéville, Antogast, Rippoldsau, Geilnau and Châtenois (on the lower Rhine). A litre of these waters is sufficient to give unequivocal indications of the presence of fluorine.

The water of the Atlantic Ocean does not contain a sensible proportion in 300 litres. This fact establishes a very marked difference between it and those mineral waters which are analogous to it.

The law of the diffusion of fluorine on the surface of the earth can be thus formularized: *There is some fluoride of calcium in all waters that contain bi-carbonate of lime, and hence fluorine may be present in all rocks and minerals that are of sedimentary origin.*

The usual method of seeking for fluorine is defective in two essential points, and leads to the supposition of the existence of fluorine where it does not exist. These are—the action that sulphuric acid alone

can have on glass; and the fact that *it* may contain small quantities of fluohydric acid.

In the course of Nicklès' experiments, these sources of error were eliminated by replacing the slip of glass usually employed, by a slip of rock crystal, and by employing an acid free from fluohydric acid.

The sulphuric acid to be preferred, in such experiments, is that which has been purified by dilution with water, and after exposure for some time to a temperature of 150° C. to 180° C. The solvent employed is fluohydric acid, which can be obtained, with some little care, free from fluorine.

Many substances have heretofore been considered as fluoriferous, without containing fluorine—the latter being introduced by the reagents employed, especially by the sulphuric acid. L. H. S.

Hospital Reports.—Bellevue Hospital, Lying-in Wards. Service of Dr. Barker. Reported by Foster Swift, M.D., House Physician.

Ann Rowland, aged 25, and married, was delivered of a healthy female child on the 16th of October, after a somewhat tedious labor. On the second day after delivery, pulse 112; cheeks flushed; lochia inclined to be offensive; bowels loose, and stools very fœtid. She had a vaginal injection of Labarracque's solution, ʒj. to aquæ Oj. and Tinct. verat. viride, 5 gtts., every three hours, was given so as to depress the pulse to 80, and to render the skin cool and moist; and solution of morphine enough to calm irritation and secure some sleep.

Oct. 21st.—Tinct. ver. vir. kept the pulse between 60 and 80; lochia still offensive; bowels still loose; belly tympanitic and inclined to be tender; she was ordered pills of solid opium and camphor, ää. gr. j., every two hours, and poultices to the abdomen. Vaginal injection continued.

Oct. 22d.—About in the same condition; pulse inclined to run up if verat. virid. is omitted, and tongue somewhat dry. She was kept upon the same treatment, with the addition of one-half oz. of Port wine every two hours.

Oct. 25th.—Lochia less offensive; tenderness much less. Tinct. verat. virid. given in two-drop doses every two hours, which was entirely discontinued on the 27th, and the patient put upon pills containing quiniæ sulph. gr. j., pulv. opii gr. ss., substituted for the camphor and opium pills. She continued improving till the 29th, when she had a severe chill; her pulse ran up to 120, and her tongue became

dry. Her right breast had become very much tumefied and very tender. It was attempted to discuss it by the use of emollient applications and friction. On the morning of the 31st, pus was discharged from the nipple. Cataplasms were immediately applied to favor suppuration, and she was put upon a supporting plan of treatment. Quinine and opium, and one oz. of whiskey every two hours. On 4th of November the abscess was opened, and about eight ounces of pus evacuated. Since that time she has been doing well.

Ellen Haydon was delivered with the forceps, after a tedious labor, of a male child, the head being engaged in the outlet five hours. She is unmarrried. On the 11th of October, the day after her confinement, she was found with a tender belly, very tympanitic, and complained of having had a chill during the night. She had a frequent, strong pulse, over 100, and was very restless. She was given morphine enough to quiet her nervousness, and tinct. verat. virid. gtts. 5, every two or three hours, as the occasion indicated; after the third dose she became slightly nauseated, and her pulse fell to 76, the skin becoming cool and moist. Poultices were applied over the abdomen. She was kept gently under the influence of veratrum for three days, and then it was gradually withdrawn. She continued to improve, and on the 20th October was transferred to the convalescent ward.

Jane White, delivered of a boy, October 8th, after a moderately easy labor; twelve hours after delivery she was taken with a sharp chill, followed by marked tenderness over the abdomen, and some tympanitis. She was put upon the moderate use of tincture of veratrum viride and morphiæ sulph., to secure quiet and to depress the pulse, which had risen to over 100. The next day, twenty-four hours after she was put upon treatment, much improvement had taken place; her skin had become moist, her pulse had fallen to about 80, although there was a tendency in it to run up if the veratrum was omitted. That medicine was continued as the occasion indicated, for three days, from which time she constantly gained ground, although still weak, which, together with the mental depressions incident to her condition, (for she was unmarried,) retarded her recovery.

REVIEWS AND BIBLIOGRAPHY.

Illustrations of Typhus Fever in Great Britain; the Result of Personal Observations made in the summer of 1853, *with some remarks as to its Origin, Habits, Symptoms and Pathology.* By J. B. Upham, M D., &c. Pamphlet, pp. 46. Reprint from the Boston Med. Journal.

About ten years ago, Dr. Upham published the results of his clinical observation and study of typhus in this country as imported by the large number of emigrants that were poured upon our shores from the year 1845 to '48. Making a pleasure trip to Europe in 1853, he took a portion of his time from pleasure and devoted it to the study of the same disease in its native haunts, carefully noting the results of his observations. Still it is doubtful if we should have had them laid before the profession, if typhus fever had not again made its appearance in Boston and at the Massachusetts General Hospital in that city, which is, by the-bye, the most elegant institution of that character in this country. The *brochure* is a valuable one, and because it may not be within reach of all our readers, we make two extracts from it. The first is an excellent summing up of what is known of typhus.

"It is an affection sudden and severe in its accession, originating mostly in the densely populated and poverty-stricken portions of the larger cities and towns of England, Scotland and Ireland, traceable, in a majority of cases, on the part of the patient, to a more or less immediate intercourse with the sick; common to all ages and both sexes; ushered in by lassitude, depression, rigors, anorexia, headache, pains in the back, limbs and joints; accompanied, or soon followed, by loss of strength; dullness of the intellect and special senses; perversion of memory; stupor; hot and pungent skin, dusky, moist or dry; flushed face; suffused eyes; furred and loaded tongue; accelerated, but moderately full, soft, compressible pulse; without any considerable deviation (in its simple uncomplicated form) from a normal condition of the chest and abdomen; general sensitiveness of surface; a strong, peculiar nauseous odor of the body; exhibiting, on or about the fifth day, an abundant, characteristic rash, first seen upon the arms, upper part of chest and legs, later on abdomen and back, never on the face—the approach of which is previously heralded by an indistinct mottled and roseate appearance of the surface, seemingly subcuticular—which rash is at first light, pinkish, florid, isolated or clustered, simulating not infrequently the eruption of measles—then darker, more or less persistent, spreading, increasing in abundance and intensity for several days, sometimes livid, petechial, fading on or about the tenth day, and disappearing, in the order in which it came, from about the twelfth to the sixteenth day: which symptoms may vary in severity and relative importance, may vacillate from better to

worse, from worse to better, or remain stationary, or diminish in intensity till they are merged in convalescence; or may be aggravated and receive accessions—the tongue become dry, swollen, fissured, black, with accumulations of sordes on the teeth and lips; injected eyes; fuliginous face; burning skin; livid and petechial spots; hurried, interrupted, imperfect respiration, accompanied by sighs and moans; dullness at lower posterior part of chest on percussion; an exceedingly rapid, feeble pulse; extreme muscular prostration, but with momentary exhibitions of unnatural strength; coma vigil or great nervous agitation, simulating at times the busy excitement of delirium tremens; with sometimes coolness of surface and profuse sweating; terminating, at a variable period between the tenth and twentieth day, often earlier, rarely later, in death; the *post-mortem* examination disclosing, externally, much discoloration of depending and posterior parts—internally, the absence rather of any considerable organic lesion, but commonly evincing more or less abnormal vascularity of the brain and its membranes, its substance being firm and natural; the bloody points on its cut surface numerous, distinct and dark—with oftentimes slight increase of serum beneath the arachnoid and in the ventricles, clear or turbid; lungs externally normal—internally normal anteriorly, the posterior and depending parts more dense and engorged; lining membrane of the bronchia reddened, stained, not unusually injected; heart soft, flabby—its contained blood dark, fluid, dissolved, sizy—with loose non-coherent clots in the meshes of its valves; viscera of abdomen normal, with the exception of discoloration and sometimes simple congestion of the mucous lining of the small intestines—occasional softening of the spleen, and general fluid, sizy, disorganized condition of the blood throughout the body—the sum and substance of which symptoms, facts and circumstances is represented under the conventional term of *Typhus*."

Our second extract shows where and how this disease is bred.

"In company with the chief of the detective police, I visited one of the most noted of these fever localities in London. A sketch from nature may not be inappropriate in this connection, and will serve to impress the facts above stated. The visit was made at night. A drive of a mile or two from Charing-cross took us into an ill-lighted, irregular-shaped court, in the midst of a densely populated portion of the city. The place was badly paved; the ground was uneven, and the whole region redolent of filth. From this court, as from a centre, crooked and narrow streets straggled out into the darkness. Down one of these we plunged, taking the middle of the way, which was also the gutter. Coming abruptly to what appeared to be the end of a *cul de sac*, we descended some steps and stooped beneath the archway of a portal. This was the entrance to one of the poorest of the cheap lodging houses of London—the temporary shelter of the most wretched and destitute wanderer, where, for a penny ha'penny a head, a bed and a roof is furnished for the night. The detective knocked authoritively at a side door, which, in a few moments, was unbolted and thrown open. A most villainous stench was our greeting. The

floor of this room was several feet lower than the level of the street, so that drainage was out of the question. We entered without ceremony, and saw, by the light of a lamp suspended from the ceiling, the limits of an irregularly square room, some fifteen by sixteen feet measurement on the floor, by scarcely six feet in height. The inmates, twenty-two in number, were sleeping when we entered. One or two of them started up—gazed vacantly at us for a moment, and immediately sunk back drunk with sleep and the narcotism of the foul air. They lay in groups, in all attitudes, in beds and upon the floor—men, women and children, promiscuously. I observed four men in one bed, muscular and brawny subjects, having only a single sheet, which served, the time being, both shirt and covering for them all. Upon a mattress hard by, lay two men and one woman, in a similar state of *deshabille*. Then came half a dozen boys, closely packed in a row upon the floor. Young girls and little children, with tattered and scanty garments, occupied every inch of space that was left. All were slumbering heavily. On lines of ropes, crossing and re-crossing each other and attached to hooks in the walls, were suspended the ragged, still crawling garments of the sleepers. It was not a place for long tarrying. The atmosphere of the room seemed, in the hot night, the very condensation of pestilential foulness. In the few moments of our stay it made an impression, not on the senses only, but upon the brain, the effect of which was perceptible the next morning in an intense headache and vertigo, which lasted for most of the day. How beasts, much more human beings, can endure a night of it, is a mystery. I have visited the crowded between-decks of an emigrant ship, on its arrival after a long voyage, and only there have found a parallel. Can we wonder that disease, in its most aggravated form, comes forth from such dens as these? Philanthropy and sanitary laws, it is true, have done much in England of late years to mitigate these evils; but much, very much, remains to be accomplished."

At the London fever hospital, where most of these observations were made, two "fever mixtures" are used, the *mild* and the *strong*, and our readers may find them of service. The mild is

℞—Liq. ammon. acetatis, ʒii.
Mixt. camphoræ
Aquæ destil., aa. ℥ss.

This appears to be given at a single draught to patients who have the disease in its milder forms, and to be repeated as occasion requires. The "strong fever mixture" is

℞—Ammon. sesquicarb. gr. v.
Mixt. camphoræ ʒi. ss.

of which one ounce may be given every fourth hour. P.

An Examination of the question of Anæsthesia, arising in the Memorial of Charles Thomas Wells, presented to the United States Senate. By the Hon. TRUMAN SMITH, U. S. Senator from Connecticut. Pamphlet, pp. 135.

This is a reprint of a paper submitted to the consideration of a Committee of the U. S. Senate, in the session of 1852–3, to whom this subject was referred by that body, and was prepared by the friends of Dr. Horace Wells, who claim that he preceded others in the use of anæsthetics. Allusions were made in the October number of the MONTHLY, to the fact that Dr. W. T. G. Morton is soliciting endorsement and money to make up the neat little sum of 10,000 dollars for his pocket; and the reprinting of this pamphlet containing an excellent summary of Dr. Horace Wells' claim, is caused by his pertinacious begging. The Hon. Truman Smith, late U. S. Senator from Connecticut, who was a member of Congress at the time of its first publication, has prefaced it with some remarks upon Dr. M., and his reasons for now stirring this old subject. We had before heard the same statements made, but not quite so fully and completely. We therefore copy what Mr. Smith says, and if any one hereafter wishes to endorse Morton, or contribute money to his necessities, they can do so, but we shall continue to decline to do either.

While Morton was in Washington in pursuit of this object, (lobbying a bill for his benefit to the amount of 100,000 dollars,) his expenditures were understood to be very lavish. He took possession of one of the committee rooms at the House, and there and elsewhere proffered to members, both *actual* and *lobby*, a profuse hospitality. Champagne, segars, and oyster suppers abounded, and the idea seemed to be entertained that such seductive influences would aid powerfully his contemplated foray on the Treasury. The undersigned must not be understood, in making this statement, to speak of his own personal knowledge, but merely of what was currently reported, and generally believed. Being well assured that Morton was as destitute of property as his pretensions were of merit, it was for a long time a profound mystery to the undersigned where he could have obtained the means to sustain so much profusion. But ere long the veil was withdraw, and the transaction stood revealed to the world in its true character.

W. S. Tuckerman, Treasurer of the Eastern Railroad Company, was detected as a defaulter early in the summer of 1855. It turned out on investigation, that he had robbed his employers of little short of a quarter of a million of dollars, and that no less than $50,000 of the amount had gone into the hands of Morton in connection with this appeal to Congress—whether by way of purchase of an interest, or on some other terms, did not appear. Tuckerman, in the fall of that year, was prosecuted for embezzlement, and on the trial Mr. Benjamin T. Reed was introduced as a witness, and testified that Tuckerman

came to him and confessed his crime, and among other things said he had let Morton have a part of the money. Witness said: "He begged me to keep the name" (Morton) "secret, as" (if known) "it would prevent him from getting the money. I said I did not see how he could keep it secret. When I asked him if the amount was more than $5000, he said it was more. I went as high as $20,000. In each case before reaching that sum, when I asked him, he said it was more. I had my fears it was more, but I do not recollect he said it was more than $20,000." At a subsequent period of the trial the same witness testified that Tuckerman "thought it important that the name of Dr. Morton should be kept secret, as he" (Tuckerman) "expected a large sum of money from that quarter, if confidence was not violated." On being cross-examined, the witness said: "I understood his object in making this request was, that the exposure might not affect the action of Congress. He said the Secretary of War had assented to the payment of $50,000. Dr. Morton's name was the only one he then used. I supposed from his manner that the sum loaned," (meaning to Morton,) "was larger than he stated." On the same occasion Mr. Hooper was called as a witness, and testified: "He" (Tuckerman) "next spoke of advances to Dr. W. T. G. Morton to assist him in securing a patent at Washington, or in obtaining reward from the Government for his invention of Ether. He was surprised to find, by consulting his book, how much this amounted to. Dr. Morton, he said, was about to receive $100,000 from the Government for his invention."

Soon after the detection of Tuckerman, the stockholders of the Railroad Company had a meeting, and appointed a Committee of Investigation, whose report, dated July 30th, 1855, is now before the undersigned. They found the aggregate amount of his embezzlements to be $245,103.25! and that he had property and assets to the amount only of $59,444, leaving a balance of $185,608.25, for which no provision could be made, and which must therefore be a total loss to the Company. On pages 23 and 24 of the report may be found a statement of the objects or purposes to which Tuckerman had applied his plunder, and among them this curious item appears:

> *An investment of a kind and character which we are advised by the Counsel of the Corporation cannot be disclosed, even to us, without prejudice to the interests of the Company, and from which we are assured, and have reason to believe, the Company may yet derive great benefit, involved, as Mr. Tuckerman declares, in an expenditure of* $50,000!

It will not take a very sharp pair of spectacles to read under this verbiage the name W. T. G. Morton. It will not be difficult to find in these developments a true symmetry between the pretensions of Morton in their essential elements and characteristics, and the measures adopted to obtain for those pretensions the sanction of Congress, at a cost to the Treasury of $100,000. Tuckerman was surprised, on consulting his books, to find how much he had advanced to Morton. Probably he was not, after robbing the U. S. Mail several times, very much surprised to find himself (as he has recently) at the Connecticut

State's Prison at Wetherfield. What an admirable fitness was there in the selection of *such a financier* to respond to *lobbying exigencies* at Washington!

We have, in the facts alluded to, an explanation of another mystery, and that is, why Morton has not persisted in his solicitations at Washington, particularly as, according to Tuckerman, the Secretary of War was prepared to countenance an appropriation of $50,000. The reason may be found in the fact that every cent which he might thus obtain would have to be handed over to the Eastern Railroad Company, to supply (in part) a sad vacuum in their exchequer, made in the manner already explained. Hence Morton, fully determined to "put money in his purse," has turned from Congress to the public, and is now appealing to the humane, the generous, and the affluent, to recognize him as the author of Anæsthesia, and to reward him as such with a munificent token of their gratitude and esteem.

It is submitted, that Morton has no moral right to one penny to be derived from his pretensions, even though those pretensions be deemed genuine; all is pledged to the Eastern Railroad Company. To pass by the Representatives of the People, and to address his solicitations to the people themselves, (thus ousting the Company of all beneficial interest,) is a mean artifice or subterfuge, such as no man of honor can either practice or approve. Whether Morton should succeed in such an undertaking, let the public judge in view of these and other facts disclosed in the subjoined papers.

Diseases of the Urinary Organs; a Compendium of their Diagnosis, Pathology and Treatment. By WILLIAM WALLACE MORLAND, M.D., &c., &c. With Illustrations. 8vo, pp. 579. Blanchard & Lea. 1858.

It requires no little talent to make a good compendium, and it is for this reason that they are so frequently failures. Hasty and imperfect collection of materials, and a marked prominence of the frequently crude opinions of the author, are apt to be the characteristics of such books; so that a new one is looked upon by us with some suspicion. Notwithstanding this, we have given the one before us a careful examination, and can say, without fear of contradiction, that it is a very excellent book. Dr. Morland has a happy faculty of weighing the value of his materials, and of giving no undue prominence to that which does not deserve it; while that which is worthy of notice and remembrance is carefully preserved. The absence of any tendency to ride the hobbies of the physician is especially noticeable, and is not less refreshing that it is rare. As illustrations of this, reference may be made to what is said of Syme's operation for Stricture, and con-

cerning Addison's disease of the supra-renal capsules. The latter is the best estimate that we have anywhere seen of the amount of reliance that ought to be placed in the observations hitherto made.

The work is divided into two parts, the first treating of the *diagnosis*, and the second of the *pathology and treatment* of these diseases. Separate chapters in each are devoted to the affections of the supra-renal capsules and to diseases of the kidneys, ureters, bladder and urethra. The illustrations are not numerous, and are old acquaintances which wear well. The book is well printed and unusually free from the disfigurement of typographical errors. Take it for all in all, we consider it one of the most valuable practical books that has lately been issued from the press, and the *best* compendium upon this subject that we have ever seen. P.

PROCEEDINGS OF SOCIETIES.

New York Pathological Society. Regular meeting, May 26, 1858. E. Harris, M.D., Vice-President, in the Chair.

Œdema Glottidis.—Dr. A. Clark presented a specimen of œdema glottidis, secondary to erysipelas of the head and face. The case occurred in the practice of Dr. Peugnet, at Blackwell's Island Hospital, the history of which is as follows:

Patrick Coffee, aged 80, an Irishman, partially insane, an inmate of the almshouse since the 28th of December, 1857, was sent up to the hospital on 7th inst., laboring under an attack of diarrhœa and œdematous erysipelas of both ankles. Ordered pil. plumbi et opii, repeated every hour; also diffusible stimulants, as patient was very weak. Discharged him on the 15th inst., cured.

Was called in to see him in his ward on Tuesday, 18th inst. Found on examination that he had traumatic erysipelas of left eye and forehead, resulting from a cut that he had received a day or two before whilst going out to the privy. Ordered ℥ss. tinct. cinchonæ co. every two hours.

19th inst. Patient doing well.

20th inst., 8 A. M. Erysipelas had entirely disappeared from left eye, but had extended to right side of forehead, right eye, right cheek, and right side of neck, extending from the trachea to the anterior bor-

der of the trapezius muscle; pulse very weak. Ordered gr. i. quinine every two hours.

4 P. M. Went in just as the orderly was about giving him the quinine; he swallowed it with great difficulty. Upon examining him, found that the act of inspiration was performed with great difficulty, whilst the expiration was comparatively easy, and upon attempting to touch the trachea or larynx, that the dyspnœa was very much increased; patient making efforts to take my hand away, but too weak to do so.

Considering this to be a case of œdema of the glottis, following erysipelas, I called in Dr. Van Wagner, senior of the staff, Dr. Gallagher, and my colleague at the almshouse, Dr. Wan, who all agreed as to the diagnosis; and the only means left to relieve the patient was to either perform Dr. Buck's operation, laryngotomy, or tracheotomy. Dr. Buck's operation was thrown aside, as it was impossible to open the patient's mouth, leaving the other; but considering the age of the patient and the coldness of the breath and cadaveric odor which was beginning to manifest itself, we concluded to allow him to die peaceably. Dr. Sanger sanctioned the conclusion which the staff had come to.

The patient died about 12 that night.

Autopsy.—When the larynx was first removed the œdema was very considerable, and the trachea was filled with viscid mucus. A considerable portion of it is still to be seen. There is a certain degree of redness still visible. The chief interest in this case is the fact that it is the second case of fatal œdema glottidis following erysipelas of the head and face occurring in the same institution within a short time.

Extraordinary Vegetations of Mitral Valve.—DR. CLARK next presented a specimen for DR. CHARLES K. BRIDDON, with the following history of the case:

Mary F. S., aged 27 years, married, the mother of three children, two alive, the youngest six years old, has no hereditary predisposition to disease, her parents living, and in the possession of good health; has not suffered from any previous disease of an acute nature, except an attack of rubeola during childhood; she was never strong, and as a child was weakly, though never decidedly sick. Within the last few years she has complained of precordial weakness, sensation of sinking at the epigastrium, shortness of breathing, and constipation of the bowels; during the past few weeks these symptoms have become more annoying, her appetite has failed, and the digestive functions have been impaired; her catamenia, previously regular, have been absent six weeks, and for some weeks past she has suffered occasionally from

vague, wandering rheumatic pains, not implicating the articulations; they are subacute in character, and appear to locate themselves principally in the muscular and periosteal tissues.

January 7th, 1858. General appearance anæmic, skin and complexion pale and somewhat sallow, tongue coated, appetite deficient, and the gratification of it followed by uneasiness and pain, bowels obstinately costive, urine secreted in proper quantity, S. G. 1020, no precipitate by heat or acid; patient complains of headache, languor and debility, pains of a rheumatic character in various parts of the body, most severe in the great toe and along the shaft of the ulna, where there is tenderness and slight tumefaction; she has had copious night sweats during the last week, which have been preceded by slight febrile movements, but no chills.

Physical examination of the lungs elicits nothing abnormal, resonance is clear and equal on both sides, and the healthy respiratory murmur is heard equally distributed over all parts of the chest.

Palpation of the abdomen detects nothing but dullness, indicating the presence of the liver below the costal cartilages.

The patient continued in much the same condition until February 22nd, when Dr. Alonzo Clark was called in consultation, and detected a murmur with the first sound of the heart, most audible at the apex, which struck the thoracic parietes four inches to the left of sternal centre. Diagnosis, *mitral regurgitation.*

23d. On rising from bed this morning the patient was attacked with vertigo, staggered across the floor, and was saved from falling by her mother; when visited two hours after the attack she complained of severe frontal headache, the following morning her articulation became indistinct, and the day after the right upper and lower extremities were found paralyzed, deglutition was difficult, and complaint was made of the throat and head; the fauces were healthy, the tongue coated with a brown fur, and when protruded inclined slightly to the right, sensibilities blunted, pulse 70, and of full volume.

25th. Condition much the same; sensibilities more blunted, pulse 74, tongue covered with moist brown fur, bowels costive and relieved by enemata, bathed in perspiration, complains much of head and throat. Dr. Clark expressed the opinion that it was probable that a vegetation had been detached from the mitral valve, and that, being carried through one of the carotids, it had obstructed some of the vessels, carrying the nutrient supply to the brain.

26th. General condition and articulation improved, patient feels better, but suffers from retention of urine, which was relieved by cathe-

ter; bowels still obstinately costive, and feculent accumulations are detected in the colon.

27th. Continued better until evening, when headache returned, with perspiration preceded by flushed face and febrile movement.

28th. Is stupid, bathed in perspiration, pulse 80, bowels costive and painful, complains of headache, tongue color of coffee grounds, but moist, has no appetite, bladder evacuated by catheter.

29th. Headache still severe, sweating profusely, bowels and bladder as yesterday, paralysis of extremities unchanged, articulates better, and the protruded tongue does not deviate from the median line.

30th. As yesterday, the returned enemata contain masses having a gelatinous appearance, and resembling the jelly of boiled starch.

For the next four or five weeks the patient remained in much the same condition, with the exception of a gradual amendment in articulation; she had distinct but irregular remissions and exacerbations, which did not yield to anti-periodics, the gelatinous substances discharged from the intestinal canal assumed a more membranous appearance, and she had occasional attacks of dyspnœa, twice she had attacks of vertigo, one of which was followed by temporary deafness; she continued to suffer from headache, and according to her own expression had queer feelings within the cranium, surroundings looked strange and unusual.

Early in March she began to complain of pain in her left side, and palpation detected the spleen extending several inches below the costal cartilages. Pressure upon the organ elicited the existence of tenderness, and during the two following months her principal complaint was of the pain in that viscus; she was unable to lie on her left side, and the paralyzed side became œdematous in consequence of her maintaining that position. Once or twice there was increase, or partial return of voluntary motion in the right upper extremity, but it was not permanent; she had one or two severe attacks of dyspnœa, and irregular febrile movements followed by sweats; but towards the close of her life her constant complaint was of the pain in her side, the abdomen became moderately tympanitic, and typhoid symptoms supervening, she died on the 18th of May.

Autopsy eleven hours after death. Rigor mortis well marked on left lateral half of body; the extremities on the right side were flaccid; emaciation marked, but not excessive; ecchymosis on left lower extremity, back of wrist, and on the left side of the trunk; the left extremities were also œdematous.

Thoracic cavities on each side contained about sixteen ounces of

transparent straw-colored serum. There were no pleural adhesions, and the lungs were perfectly healthy.

Pericardium contained about ten ounces of clear serum. Heart, when removed, weighed twelve ounces after the removal of a moderately firm clot from the left ventricle; the right ventricle contained a non-adherent, transparent membrane, but no clot; the muscular tissue of the heart appeared to have undergone degeneration, being changed in color. The walls of the right ventricle were two lines thick, those of the left ten lines. The valves of the right heart were healthy. The aortic valves were each the seat of very small vegetations arranged in the situation of the corpora arantii. The mitral valve was the seat of extensive disease; it appeared to have completely lost its character as a valve; each flap resembled a shaggy mass of vegetations hanging pendulous into the ventricle. The right flap appeared to have been split and worn away. Some of the vegetations were loose and pedunculated, and one about ten lines long was almost detached. There were similar growths on the chordæ tendineæ, and columnæ corneæ.

Abdominal cavity contained about two quarts of clear straw-colored serum; peritoneum was healthy with the exception of two points, where the omentum had become adherent to the spleen. The liver was enlarged, but apparently unchanged in structure; it reached a hand's breadth below the ensiform cartilage; its edges were sharp; color and consistence natural. The gall bladder was distended with healthy bile. Kidneys, supra-renal capsules and pancreas were healthy. The colon was unusually contracted, and its mucous membrane, as well as that lining the small intestine and duodenum, was thickened, softened, and everywhere covered with an adhesive gelatinous exudation. In some places masses of false membrane were detected, resembling those discharged during life.

Stomach was healthy.

The spleen reached three fingers' breadth below the left costal cartilages, and was adherent at two points to the omentum. When removed it weighed seventeen ounces. In its lower two-thirds it was natural in color and consistence, with the exception of at one circumscribed spot, an inch and a half in diameter, where it had contracted the above mentioned adhesion. On making a section through this, the change in structure, or deposit in the substance of the organ, contrasted remarkably with the surrounding healthy parenchyma. It consisted in, or was formed by, a central mass of a bright yellow color, surrounded by a well-defined pure white substance one line in thickness, and having on its outside a zone of purple which merged into the

healthy structure of the viscus. The upper third of the organ was more enlarged, and evidently the seat of more recent change in structure; it was more tumid and pulpy, its color changed to a reddish chocolate brown, studded here and there with yellowish and gray spots, and the line of demarcation between the healthy and diseased parts was well defined. To a portion of the surface was adherent the omentum, and on incising through this the capsule was found thickened, and but loosely adherent, the substance of the spleen disintegrated, and converted into a watery chocolate-colored mass.

Unfortunately permission could not be obtained to open the head, where in all probability lesions would have been discovered which would have completed the history of the case. Presumptive evidence, however, is abundantly supplied in the symptoms exhibited during life, the paralysis indicating some lesion within the cranium. The attack of vertigo occurring on the 24th of February, followed in twenty-four hours by gradual paralysis, does not belong to the history of apoplectic effusion; the head symptoms following, the blunted sensibilities, and various nervous phenomena pointed to impaired nutrition of the cerebral nervous centre. Such was the opinion expressed by Dr. Clark, and the existing condition of the heart led by a process of inductive reasoning to the conclusion that the defective nutrition of the brain was caused by the occlusion of some of its nutrient vessels by a vegetation detached from the cardiac valves. Dr. Clark expressed the opinion that recovery might take place if softening did not result; the condition of the patient was an unfavorable one, but inasmuch as she survived the head trouble nearly three months, it is probable the issue would have been favorable but for the complication in the abdominal viscera, which were undoubtedly the cause of death.

DR. CLARK then remarked: One of the chief points of interest is the extraordinary development of vegetations upon the mitral valve, with a slight amount upon the aortic valve. The organs, when removed, weighed twelve ounces. The spleen was enlarged to nearly three times its natural size, and was the seat of a kind of degeneration that has not been fairly studied. The upper portion is tumefied, as if a heterologous deposit had taken place there. At its lower portion there is a smaller mass of the same kind of deposit, still more distinct in its character. That this is the result of an inflammatory action, is rendered pretty evident from the fact that the omentum is adherent at this point. The deposit differs but little in its microscopical characters from that of the structure of the healthy spleen. It seems to be made up mainly of cells of the same character as in the

healthy spleen structure, possesses few or no blood vessels, scarcely any fibrous tissue, and the border surrounding it, connected with the healthy portion of the organ, is intensely injected. The outline in the smaller deposit is perfectly distinct; in the larger, equally distinct, but the contrast of the morbid and healthy portion not so striking.

There is another feature in this case which is illustrated by the material which was discharged from the intestinal canal.

In regard to the discharge from the intestinal canal, its character will be seen. He had brought up a few specimens of an analogous kind, discharged from persons, most of whom are now in health. They all have the same microscopical characteristics. It is not an uncommon occurrence to notice this material discharged as the result of irritation from fœcal accumulations. This effusion from the mucous membrane that has a membranous appearance, has very variable characteristics in different specimens. In some, it appears as well formed as the old false membrane of croup; in others of a more recent deposit in that condition, and in still others a mere tough mucus that holds certain cells in its substance, which are not all pus cells, but cells of a character which, under more favorable circumstances, would have been susceptible of plastic changes. In conclusion, Dr. C. hoped that the rule not permitting discussion of a case presented by a candidate for membership be waived in this instance. After a little discussion the suggestion was adopted, and accordingly,

Dr. Post asked how long the cardiac symptoms existed?

Dr. Clark.—The cardiac symptoms were scarcely recognized until the day of the discovery of the valvular murmur, though it was noticed that she was short of breath in coming up stairs for a month before.

There was another interesting feature in the case: the occurrence of chills, with a considerable regularity or rather chilliness followed by fever and sweats. These continued more or less regularly from an early period of her sickness until her death, yet there was no abscess recognizable, no pyemia, no disease of the lungs, no exposure to miasmatic influences. The attack did not yield to quinine. It is a case in which he had been able to make (what seemed to him) a pretty clear diagnosis, during life, of paralysis arising from obstruction of the artery from vegetations of the heart, and he cannot entertain any more doubt of it being the cause of the paralysis than if it had been demonstrated. The murmurs changed on the day that the paralysis occurred. This paralysis became complete in twenty-four hours, and remained so for nearly three months.

DR. FINNELL asked if the deposit in the spleen was not the result of fibrous inflammation?

DR. CLARK thought not, as it resembles very much specimens he had examined in which scarcely a trace of a fibre could be seen. He had not, however, examined this. In other specimens he has found cells to exist the same as in other portions of the healthy tissue, but not a blood vessel nor blood corpuscle could be discovered, while the other was full of them.

DR. HARRIS asked if the membrane discharged from the intestinal canal had any connection with the paralysis?

DR. CLARK thought not.

DR. HARRIS remarked, that he had met with a case of paraplegia in which such a gelatinous membrane appeared in considerable quantity and highly organized, connected with constant constipation of the bowels.

DR. CLARK.—A patient of Dr. Bogart's, in Fifth Avenue, has for months been discharging large quantities of this material.

Œdema Glottidis.—DR. FINNELL's first specimen was similar in some respects to the first one presented by Dr. Clark. It was removed from a patient thirty years of age, who entered St. Vincent's Hospital, suffering from phthesis. The disease was far advanced, he having had night sweats, purulent expectorations, &c. He was able to get about the wards until a few days ago, when he complained of distress about the throat and difficulty of breathing, and after a few hours died. On autopsic examination, the œdema glottidis was well marked, the trachea and larynx were also filled with a glary mucus.

Endo-Metritis.—DR. FINNELL next exhibited the uterus of a woman æt. 31, who died from endo-metritis. She was buried one week ago last Sunday, from the house of a professed abortionist. The funeral being very sparsely attended, and carried on in a very quiet way, aroused the suspicions of the neighbors, and accordingly an investigation was entered into. The body was examined one week afterward, and showed very clearly that there had been a child delivered at or near the full term. There were also observed well-marked appearances of endo-metritis. Portions of the placenta are adherent. The mucous membrane is seen to be covered with exudations at certain points. The points of inflammatory action are most marked at the cervix. If the under wall be pressed, pus will flow out. At the upper portion of the vagina there was an intense vascularity. Near this point were two small openings.

Foreign Substance in the Trachea.—DR. FINNELL's third specimen

was the larynx and trachea of a child, 1 year and 8 months old. The child was playing with its little sister, when he swallowed several peanuts. He soon after began to suffer from symptoms that were referable to the throat. He was brought to a druggist, who attempted to force the substance down into the pharynx with a quill, without effect. The child was brought home, when he began to show evidence of obstruction in the larynx and trachea, and he was treated by a physician for croup. Leeches and other remedies were used. He died thirty hours after the peanuts were swallowed. On making the autopsy, one of the peanuts was found imbedded in the trachea just below its first or second ring.

Gunshot Wound of the Abdomen.—Dr. Finnell's fourth specimen shows the effect of a gunshot wound in a suicide, caused by the discharge of a heavily-loaded pistol against his abdomen, the load tearing away everything in its passage. There was a large quantity of shot in the spinal column, some of them he removed, to the number of thirty-seven. The liver presents the appearance of being fractured from its anterior margin backwards. Portions of the liver have been torn away.

Wound of Heart and Abdomen.—Dr Finnell's last specimen hows the effect of stabbing. Here is the liver and heart, the latter has a wound at its apex. It occurred in a quarrel between a mate of a vessel and a sailor, the latter inflicting the injuries. Besides those alluded to, there were two or three large cuts across the face, one deep into the shoulder, another through the biceps, and another through the lower portion of the abdomen. The apex of the heart is cut, as you will see, the right ventricle is opened into, and the cavity of the pericardium was filled with blood. From the direction and character of the wounds inflicted, it showed conclusively to my mind that they were inflicted with a slashing movement, rather than any other.

Dr. White, in connection with Dr. Finnell's third specimen, referred to a case that came under his notice a number of years ago, where a child swallowed a bean which was drawn down into the right bronchial tube. The situation could not be determined, but an operation was attempted, which failed. It seemed that the foreign body first lodged in the trachea, and was afterwards by inspiration or manupulation forced down into the place where it was discovered at the *post-mortem* examination.

Dr. Clark asked, in connection with Dr. Finnell's second specimen, (showing the effects of abortion,) if any peritonitis existed?

DR. FINNELL.—No, sir, there was none whatever.

DR. CLARK stated that it was rather unusual that this form of disease occurs without some peritoneal inflammation.

DR. POST, in connection with Dr. Finnell's first specimen, (œdema glottidis,) stated that the tumescence of the aryteno-epiglottidean folds seemed to be owing rather to the deposit of fibre than to the infiltration of serum He referred to a case of this kind that came under his observation, where all the symptoms of œdema glottidis presented themselves, where Dr. Buck's operation was resorted to without success, and it turned out to be a case of fibrinous infiltration. In answer to a question from Dr. Harris, he stated that this variety of disease came on as suddenly as the true œdema of the glottis; in fact, was like it in every respect, except only as far as the result is concerned.

DR. MARKOE observed that it was difficult to ascertain the exact situation of foreign bodies in the trachea, inasmuch as the relative proportion in size between the chink of the glottis and the calibre of the trachea was so great that if a body passed the glottis it could go past the bifurcation. He thought that tracheotomy ought to be performed, and give the patient a chance to discharge it by that means.

DR. POST said that in case the body lodged itself in the larger bronchial tubes there would be a constant disturbance of the respiration, with cough and purulent expectoration. He referred to a student of his, who had a foreign body lodged in this way for three years, during all of which time he suffered from hectic fever, night sweats, &c. At the end of that time it was finally ejected, after which he regained his health.

DR. BIBBINS asked if the patient was held up by the heels if there would not be a fair chance for the expulsion of the foreign body.

DR. POST.—That was tried in the case of Mr. Brunell, and it brought on very violent spasms, but in his case the foreign body was a very heavy one, being a gold soveriegn. After tracheotomy was performed and air was allowed to enter independent of the glottis, the success was complete—the glottis becoming relaxed for the passage of the body. He recollected a case where tracheotomy was performed by Dr. A. H. Stevens, where the patient had caused a watermelon seed to enter the trachea, and it was ejected several days afterward through the natural passages.

Product of Abortion.—DR. T. M. MARKOE exhibited a mass that came away from a lady who had been married about three months, and had supposed herself pregnant a little over two months. From the time of her marriage she suffered a good deal of pain and uneasi-

ness in the neighborhood of her womb. This assumed rather a more severe character during the last two or three days. Yesterday they were very severe, and attended with a little flow of blood. In the night the pain and hæmorrhage increased. I saw her soon after, and recognizing the imminence of abortion, kept her quiet, but this morning this body was thrown off. From that time the pains have ceased, and the flow has entirely stopped, which circumstance indicates pretty certainly that abortion is complete. He presents the specimen because it belongs to a series of cases of abortion in which the product of conception is not a complete ovum—sometimes this product being merely a false membranous exudation like that of dysmenorrhœa, or sometimes it being the true product of conception originally, in which the fœtus is flaccid, and disappears while the appendages are developed to a certain extent and then come away. This specimen, said he, is a large and bulky body, having had the form and shape of the uterus. No true membrane was found anywhere about it, or in it, and there was no portion of the fœtus near it, or with it.

Dr. Gardner thought that the membranes had arrived at too great a degree of development to warrant it being called dysmenorrhœal. There is, said he, plenty of dysmenorrhœa in virgins; they never discharge anything more than a little stringy matter, but in married folks it is different.

Dr. Clark thought that there could be no difficulty in settling this matter by the microscope, inasmuch as the chorion forms early, and it was entirely distinct from any other structure. The membrane of dysmenorrhœa is merely an attempt at ordinary fibrous organization. The two tissues are just as distinct as any two can be, inside the body. He stated that there were a great many specimens presented of a doubtful character, owing to the infiltration of blood in its substance, which when carefully examined were found to possess all the characteristics of the membranes of the embryo. The simple fact that the ovum is not found he would not attach much importance to, as it is easy to conceive how it may be thrown off during the contractions of the uterus.

Fœtus.—Dr. Krakowitzer presented a specimen for Dr. Henshell—a fœtus expelled last Monday morning, with the membranes unruptured at the end of six months' pregnancy. The patient was taken with pains last Monday night, when the fœtus was expelled. The size of the fœtus, it will be seen, does not correspond with the time of its development. It is likely that it died when only 4 weeks old. The cause of death is the arrest of the circulation by a twist in the funis.

The funis in this case was rather long. There was a large clot of blood adherent to the inner surface of the placenta. He thought this was a condition to which not much attention had been directed.

DR. THOMAS stated that it did not look like a case of placental apoplexy.

DR. KRAKOWITZER thought it was secondary to the twisting of the funis.

DR. THOMAS remarked that it was stated by Prof. Simpson that successive abortions are almost always connected with a fatty degeneration of the placenta, which possibly might be the case in this instance.

DR. KRAKOWITZER had not examined it.

Uterine Polypus.—DR. GARDNER on the 30th Jan. last was called to a woman who was supposed to be aborting at the second or third month. She had been flooding at repeated intervals for five or six weeks. She had a child 18 months previously, and had menstruated regularly for several times, then menstruation ceased, and she supposed herself three months pregnant. She had at that time been in labor six or seven days, had severe pains and a great amount of flooding. The os, the physician informed me, had been rigid, and he had endeavored to relax it by the warm douches. There was a discharge from the vagina, very considerable in quantity, and very offensive. He made an examination, passed his finger into the os, and removed a mass which was very much broken up, and while doing this he discovered a polypus. He endeavored to extract it, but succeeded only in bringing away a very small portion; from that moment the fœtid smell ceased. Soon after some pyæmic abscesses formed—one in the neighborhood of the uterus which broke into the rectum, and the other, which is rather more obscure, formed in the chest, broke, and was expectorated. She went on suffering from chills, &c., for two or three weeks longer, when they gradually ceased. Still there was uterine irritation present. The polypus was still there. Sponge tents were passed, dilating the os gradually until four weeks ago, on Sunday, when he got in the écrasseur. The tumor was four inches in length—the pedicle was two inches in length, and about one and a half inches in thickness. It was impossible to introduce the écrasseur around it, and therefore he took hold of it with a forceps, and all he succeeded in doing was to pull off the tumor. Since that time the patient has gone on pretty well. A few days ago I made an examination; the os was closed and the uterus was still much enlarged.

Stone from Urethra.—DR. LIVINGSTON presented a little stone from

the urethra of a little boy 17 months old. It had become impacted, and he was unable to pass his water for thirty-six hours. The bladder was very much distended, and before I saw him it was thought to be an abscess, and was poulticed. On examination I detected the nature of the difficulty at once, and immediately proceeded to extract it; this I did with a small triangular instrument used for extracting bullets.

Dr. Dalton next presented for Dr. Detmold a small calloid tumor removed from just above the lumbar region, by Dr. Detmold. On cutting into the tumor quantities of colloid matter were seen, (not cancerous,) separated by sheets of areolar tissue.

Regular Meeting, June 23, 1858. E. R. Peaslee, M.D., the President, in the Chair.

Dr. T. C. Finnell presented several specimens, the first of which was that of the head of a child two and a half years of age, that died of hydrocephalus and marasmus. The largest measurement of the head was 15 inches, bi-mastoid diameter 15 inches.

Rupture of Liver from violence.—The second specimen was a ruptured liver, removed from a woman 30 years of age, who was kicked by her husband a short time previous to death. She died four hours after the reception of the injury.

Autopsy discloses a fatty and somewhat enlarged liver. The abdomen contained about two quarts of partly coagulated and partly fluid blood. There was also seen a rupture of the liver, which extended from the surface completely through to the other side. There was no discoloration on the surface of the body.

Dr. Clark, in connection with the first specimen, remarked, that there were two forms of chronic hydrocephalus, one attended with thickening of the membranes, showing an increase of vascular action, if not inflammatory; it is very decidedly hyperæmic. In other instances, there was nothing of the sort, simply a dropsy. In the first class of cases it seemed altogether likely that some modification of the treatment adopted in acute hydrocephalus would have some chances of being successful. He thought it was of interest to fix, as near as could be done by symptomology, progress of the case, &c., whether thickening of the membrane or dropsy existed. In view of these facts, he asked Dr. Finnell whether the membranes were examined in this case.

Dr. Finnell stated that no careful examination of them was made; about ten oz. of fluid escaped.

Dr. Clark.—Did you notice any shrinking of the brain matter?

DR. FINNELL.—No, sir. It will be seen that the fontanelles are closed.

DR. HARRIS asked, in connection with the second specimen, if the kick by the husband was deliberate.

DR. FINNELL.—Yes, sir; but it was stated by one of the parties that vomiting might produce it, and that the blow was not severe enough to produce the results.

DR. CLARK thought there was on the records of the Society a case of spontaneous rupture of the liver. In that case, if his recollection served him right, there was a considerable amount of softening around the seat of rupture. There seemed to be almost a solution of the liver structure before the blood vessels gave way. In Dr. Finnell's case, he thought that the liver, though not firm, was not softened to any extent; that the rupture might be accounted for in that way.

DR. PEASLEE.—The fact that it is a fatty liver would seem to argue that a less amount of violence would be requisite in bringing about such a result.

DR. BATCHELDER asked if it was not very generally the fact that, in laceration of internal organs, there was no mark of any external violence? In all the cases that he had seen where viscera had been wounded, there was no mark of any external violence upon the surface.

DR. GOULEY referred to a case that occurred in Bellevue Hospital, of a man who died from a fall from the third story of the house, causing a compound fracture of both legs. On opening the cavity of the abdomen it was found filled with blood. One kidney was ruptured completely across. There were a few marks of bruises externally, but none in that locality.

DR. FINNELL stated that he had presented several specimens of rupture of the intestine from violence. In most, if not all the cases, there was no mark of external injury. In one case, of a boy, a large brown stone lintel fell a distance of ten or twelve feet upon his abdomen; peritonitis was the result of a rupture which it caused. He died. There was no mark of any violence whatever upon the integuments. I have been asked, said he, upon the stand, if such a thing was possible. I have answered generally that such things are not at all uncommon.

DR. HARRIS referred to a case of a woman who was run over by a rail car, where all her internal organs were terribly lacerated, yet there was nothing externally but a slight abrasion upon the back.

DR. FINNELL'S third specimen was a femur, from a man æt. 50, a

subject in the dissecting room. It is very much bent, and turned upon itself as if the bone had been twisted inwards. Commencing at the great trochanter and extending down nearly to the middle portion, there is a greater convexity, and the bone is altered at that point. On making a section, the medullary canal is seen almost completely blocked up with cancellar structure. It has resulted from one or two things—either the patient must have had rickets in early life, in which case other bones ought to be involved, which, however, is not the case; or, it might be the result of bending of the bone in early life, and this effect might be the result of tissue. Then, again, it might be a fracture.

Dr. Gouley thought that the medullary canal was really more pervious than it seemed. This, he thought, was owing to the fact, that from the peculiar bend of the bone, the saw did not pass fairly through its longitudinal axis.

Dr. Post thought it was probably the result of a bent fracture in childhood—hence the irregularity in the canal as well as outside. He thought it could hardly be the result of any disease.

Dr. Peaslee said that it seemed to him, that nothing but muscular action would give that bone that precise bend. If it was from the weight of the body, as in rachitis, the bend would be more gradual. It proved to his mind pretty conclusively, that there was a fracture at some time with very little displacement, until the muscles brought in their forces to destroy the relation of parts.

Connection of Penicillum Glaucum, with nervous troubles.—Dr. Alonzo Clark next followed, with some very interesting remarks upon the connection of the deposit of the penicillum glaucum in the urine, with certain nervous troubles. He said: Within the last year it is known to some members of the Society, that his attention has been a good deal directed to the nervous condition of the system, associated with certain deposits, or certain productions in the urine. He is quite prepared, after having collected a pretty large number of cases, to make this general statement; that in many of the forms of nervous diseases, which have occasioned much anxiety and difficulty of diagnosis, the derangements are produced by a special poison, which, circulating in the blood, produces its effects, first upon the nutritive system, (if he may be allowed to call the ganglionic by that name,) and secondarily, upon the voluntary or reflex system. It is with reference to that point that he proposes to occupy a few minutes.

It is now perhaps fifteen years since Golding Bird first called the attention of the profession to the influence of the oxalic diathesis—that

is to say, to those symptoms that seem to have some connection with the presence of oxalate of lime in the urine. In the last edition (1853) of his work, he makes a distinction; he divides oxaluria into two classes, one in which there is oxalate of lime, without any increase of the extractive matter; the other where the oxalate of lime exists, with an increase of the extractive matter. He (Dr. C.) is prepared to add another class, that in which the *extractive matter* exists without the oxalate of lime.

The only novelty that he has to present in these cases is, that the extractive matter seems to be of an animal character—that is to say, it is in no manner connected with the solution of the constituents of the urine.

It seems to him to be the result of imperfect disassimilation, (if he may be allowed the use of a double negative.) So far as his knowledge extends, this extractive matter has more the character of gelatine than of albumen.

The urine containing it does not coagulate by heat or nitric acid; in fact, it presents none of the recognized tests for albumen. It has, however, a test of its own, one furnished by nature. It produces for a certain length of time, varying from one day to one week, food for the commonest form of mold—the penicillum glaucum. It occurs in spores, these germinate like the spores of the torulæ, by little buds set off from one extremity. By and by some are observed to extend themselves into the stem, which is known by a proper name. This rises to the top of the water and there grows into little branches, and on the top of the water finally germinates again. This variety of production is found to grow on boots, cheese, and in a great many substances that contain animal matter. The production of this penicillum glaucum in the urine is the result of some imperfectly decomposed animal matter. In all the cases where this production is found, there are some unnatural conditions of the nervous system.

In a patient, for example, of Dr. Stelle, who had hysteria, a young woman of 20 years of age, who suffered from violent pains and feeling weak and uncomfortable, had a disposition to sleep, and slept for several hours. The examination of the urine disclosed a vast amount of penicillum glaucum, and it also contained an abundance of oxalate of lime. These two substances go together in nine cases in every ten in which either occurs. Then it is again without; then a very small proportion in which the penicillum glaucum will be produced, and yet there will be no disposition to the formation of the oxalate of lime

Dr. C. then referred to a case of Dr. Van Buren, in which the most

extraordinary symptoms presented themselves. One day the patient would be singing, cheerful and sprightly, the next she would be morose and sullen. One day she would have severe pains through her chest, then through her stomach, when she would vomit considerably. At one time she would be all watchfulness, and then again do nothing but sleep. Her urine was examined and found to be heavily loaded with oxalate of lime. During one week in the morning there would be an abundance of the penicillum glaucum, while in the evening there would be present torulæ. The next week the reverse would be the case in the morning urine the torulæ would exist, and in the evening the penicillum glaucum would be present, indicating the existence of undecomposed animal matter in the urine. A common symptom connected with this disease is dizziness; a rare condition, is depression of the pulse.

A woman came into the hospital a few months ago, whose history was this: She had been at her work as usual, when she suddenly became so dizzy that she could not stand. At the time she came in her pulse was 52, and did not rise above that for several days, yet she was up and walking about, and had the look of a person in pretty good health. Her urine was found to contain oxalate of lime, and in twenty-four hours afterwards there was an abundance of the spores of the penicillum glaucum. She remained about the hospital for a little time, became a little insane, and seized an opportunity to throw herself into the river.

In another instance, a patient of Dr. Hall, a butcher, doing business near here, a stout healthy-looking man, had been troubled with dizziness; this increased to such an extent as to give him great anxiety. There was no evidence of any cerebral disease, but there was found an abundance of oxalate of lime, and the penicillum glaucum made their appearance after a few days' keeping. Dizziness is common, but by no means constant.

Almost any nervous derangement that cannot be accounted for by a reference to known pathology, subjects itself to the suspicion of being produced by this certain something circulating in the blood, acting as a poison to the nervous system.

The cases in which this particular state of things exists turn out to be very numerous. He sees a case almost every day in which this oxaluria exists. In almost all of them there is that capability to produce the penicillum glaucum.

In regard to the mode of managing these cases so as to relieve patients from their sufferings, which are for the most part very intense. Many in-

deed have told him that life was not worth having at such a cost, and are very sorry to hear that the disease is not likely to prove fatal. This was particularly true of a gentleman from Cincinnati, in whom this particular diathesis was more marked than any male that has come under my notice. It is gradually wearing him out.

It does not seem to him that Bird's plan is the best. It will not cure in the majority of cases. As for treatment he will not give any; the remarks already made are in relation to the production of the penicillum glaucum, the causes and the symptoms connected with it.

There are two or three theories in regard to the mode in which oxalate of lime is produced. The chemical constitution of carbonic acid gas is such that when a certain amount of oxygen is added it becomes carbonic acid gas. One theory is, that it is produced because in this instance the carbonaceous materials are not completely disassimilated, and that the oxygen is not appropriated in sufficient quantities to make the combustion complete; and to get rid of the oxalic acid, and consequently the oxalate of lime, it is necessary that there should be a certain amount of oxygen added to the decomposing material. Another theory is, that it is incompletely formed uric acid. He had no opinion about it. In regard to it further inquiry is necessary. The main point that he had in view was to find a solution of the vast number of diseases which we have been accustomed to denominate hysteria, gastric derangement, &c., that really the "head and front of the offending" is in this substance, remaining in the circulation, serving as a poison to the nervous system precisely as urea does under other circumstances. The manifestation of the two substances are different. He may here remark that urea generally exists in a large proportion in these cases. The specific gravity of the urine is very high.

Another remarkable thing is the fact that the more abundant the penicillum glaucum is the more reluctant is it to undergo the ammoniacal changes. There are specimens of this urine on his table, which have retained their acidity for two or three weeks. This is not true of any other urine except that which contains sugar.

ERRATUM.—The last formula on page 431 should read:

℞.—Ammoniæ sesquicarb. gr. v.
Mist. Camphoræ, ℥iss.

EDITORIAL AND MISCELLANEOUS.

— An extremely interesting case of congenital fissure of the sternum, which offers a rare opportunity for an intimate study of the motions and sounds of the heart and lungs, has attracted the attention of the medical profession of this city during the last month. The case is one not unknown to the world of medical science, for it has been the subject of much discussion during the last few years in all the learned societies of Europe, and has been treated upon in most of the medical journals in the different cities of Great Britain and the Continent.

Mr. E. A. Groux, of Hamburgh, in whose person this almost unique conformation of parts is observed, has been examined by over 2000 physicians of the Old World, as the album which he carries attests. In it are found the autographs of the greater lights in our profession, from St. Petersburgh to Madrid, and in many instances the detailed result of a critical examination is recorded.

We have been permitted to examine this album, and to transcribe some of these opinions. As this is an instance of a most rare anatomical disposition of parts, allowing an unusual facility for examining the phenomena presented by the heart during life, we consider every opinion upon the motions and the sounds of this organ, elicited by such a case, to be worthy of a more permanent record; we therefore, with M. Groux's permission, give here such of them as have not been already published.

Although this malformation is congenital, M. Groux was not aware of anything peculiar about it, till he was attacked by cholera, in 1849, when his attending physician detected it, and pointed it out to him. Since then it has been the subject of much scientific speculation, as the history of his presentations to the different societies and savans of all nations proves.

History furnishes but few instances of such a conformation of parts, and it is but recently that M Groux, when on a visit to Edinburgh, found that his case was not unique.

Dr. J. Hughes Bennett, who presented him to the Medico-Chirurgical Society of that city, exhibited at the same time a pathological specimen he had taken a few years before from the body of a woman, in which the sternum was cleft; a margin of bone existing on each side, to which the ribs were attached by their cartilages. This condition of parts was not known until the post-mortem revealed it.

Harvey records the case of a young nobleman, in whose left side

there was an opening, permitting the introduction of the fingers, and the examination of the heart by sight and touch. This was, however, the result of an accident, the ribs having been fractured by a kick of a horse, the injury terminating in destruction of the soft parts by ulceration, and thus opening the cavity of the thorax.

Dr. Lyons, of Dublin, in his observations on the case of M. Groux, mentions a third case, which in some respects has a more striking similarity to the one now under consideration. It occurred in a boy fourteen years old, deformed, with a lateral curvature of the spine, and consequent deviation of the ribs, some of which were imperfect. The first rib was perfect, articulating with the sternum; the second terminated at the distance of two and a half inches from the sternum, and the third, fourth, and fifth at three inches, while the rest were joined together, forming a semi-lunar arch. In the space between the ends of the ribs and the sternum, on the left side, covered only by skin, could be seen the movements of the heart and the lung.

These are the only cases known bearing any resemblance to the singular condition of parts which are to be seen in the person of M. Groux.

M. G. is about 28 years old, small in stature, but well formed. The remarkable peculiarity in his case consists in a fissure, which extends the whole length of the sternum at the median line, dividing it into two lateral halves. This fissure is of a V shape, with irregular outlines, covered with skin, and perhaps some of the fasciæ of the thorax; having its base upwards and its apex at the ensiform cartilage, where the two halves are held tolerably firmly together by a strong ligamentous band. During natural respiration the fissure is depressed at variable depths, which can be increased by forced inspiration, giving it a concave appearance. The width of this fissure during quiet respiration is about one and a quarter inches at its upper boundary, an inch and a half upon a line with the third and fourth ribs, and a quarter of an inch at its apex. This width can be greatly diminished or increased at will by muscular effort. Through the action of the pectoral muscles, the hands joined together and pulling upon each other, the fissure is dilated to the width of about two inches and a half; while the hands being joined, and the effort being reversed—that is, pushing against each other—the fissure is lessened in width, can be closed entirely, and the edges be made to overlap even, through the influence of the deltoid and trapezii muscles. Forced expiration also increases this fissure, forced inspiration diminishes it.

Attentively examining this triangular space, a pulsating tumor is

seen about its middle, on a line with the fourth rib. This is the most apparent pulsation, but there are two others in an almost vertical line with it, the one above and the other below, which can be felt; the latter is to a certain degree visible.

The motions and sounds of the heart perceived and felt in this triangular space have been the subject of the various opinions we are to give, but before we do so we must refer to other phenomena presented by this singular case.

By forced expiration, M. Groux is able to produce a large bulging tumor in the upper portion of this fissure, which upon percussion gives the clear sound of lung. This is the upper and anterior margin of the right lung, which is forced from under the margin of the right half of the sternum to fill up the fissure, giving it a convex appearance. Coughing developes this the best.

Another curious phenomenon is the wonderful power possessed by M. Groux of instantly arresting the pulsation in the subclavian and radial arteries. This is accomplished during full inspiration, the breath being held for a few moments while the lungs are full. It is probable that the apices of the lungs press upon the subclavian arteries, and in this manner obstruct the circulation.

Still another experiment which is usually shown during the examination of this singular malformation is the enlargement of the pulsating tumor at the end of expiration, the lungs being completely exhausted, and the respiration suspended for a few moments. The tumor grows larger gradually, and the impulse of the heart is felt distinctly in the intercostal spaces of the third, fourth and fifth ribs. This is presumed to be owing to the distension of the heart by the blood during suspended respiration.

What is the pulsating tumor which is so apparent in the fissure? This is the mooted question. By some it is supposed to be the aorta, by others the right auricle, by others again the right ventricle, and by others still, the conus arteriosus or the arteria innominata.

Dr. Lombard, of Liege, who examined M. Groux in May, 1852, says, "The pulsations of the aorta were very distinct, and not synchronous with the auricle. The first were quite high, the second lower, and very visible to the eye."

Prof. Hamernik, of Prague, says, "The pulsating tumor is the right auricle, and not synchronous with the heart's apex."

Dr. Wilhelm Reil, of Halle, thus gives his opinion: "The tumor is the right auricle, because the dilatation is synchronous with the first

sound of the heart, the first sound of the aorta, and the first sound of the pulmonary artery, but the radialis was a moment later."

Prof. Baumgartner, of Fribourg: "The tumor is the right auricle, because only a body with transverse muscular fibres can produce this movement."

Prof. Forget, of Strasbourg: "It seems to me beyond question that the dilatable and pulsating tumor is the right auricle: 1. Because it occupies the position of the auricle; 2. Because it dilates to a considerable degree; 3. Because this tumor increases greatly in size when the subject separates the shoulders and suspends respiration; 4. Because behind and above this dilatation at the top of the sternum another synchronous pulsation is felt much more limited, much less expansive than the first, and which appears to me to be that of the aorta."

M. Jules Eckard writes in the Gazette Hebdomadaire of Paris: "The right auricle forms, in fact, across the soft parts a tumor, the maximum diminution of which is synchronous with the shock of the heart against the pectoral walls, and with the arterial pulse, consequently with the ventricular contraction. * * * It results from this examination that the shock of the heart is synchronous with the ventricular systole."

M. Aran, in his remarks before the Medical Society of the Hospitals of Paris, said, "It seems to me that there can be no doubt upon the point that it is the right auricle."

M. Bouillaud states: "Fissure of the sternum, permitting the aortic pulse to be felt. The pulsations that can be touched, that can be seen by means of this fissure, are synchronous with the pulsations of the carotid artery, the subclavian, radial, &c., and with the shock of the point of the heart. This organ is well formed, the beatings are regular, of ordinary force and extent, &c."

M. Piorry—"I have ascertained that the heart is twelve centimetres in width; that it is the right auricle which beats in the place where the sternum should be, &c."

M. Pouchet, Professor of Natural History in Rouen, says: "The pulsatile tumor can be only the right auricle. This is demonstrated by the region it occupies, by its movements of expansion, and by the considerable increase it undergoes during the act of coughing, and the suppression of the respiration—phenomena which could not be observed if it was the aorta."

The late *Dr. John Snow*, of London, stated that "the motion observable to the eye in the situation of the right auricle is occasioned by the closing of the tricuspid valves during the contraction of the

ventricles, which causes a momentary reflux or wave of blood into the auricle. I am of opinion that the proper contractions of the right auricle are not very apparent."

Dr. Geo. Burrows, *Dr. Wm. Baly* and *Mr. James Paget*, Physicians and Surgeon to St. Bartholomew's Hospital, London, in their opinion, state: "It seems to us most probable, that the pulse seen and felt between the separated portions of the sternum, is due to the contraction of the right ventricle, the heart being placed somewhere above and to the left of the normal position."

Dr. Ernst, of Zurich, says, in the Album, that the tumor is the right auricle, and he writes in Virchow's Archives—"It is clear that the part of the heart seen and felt contracts when it moves downwards. This motion is synchronous with the shock of the heart which is slightly felt between the fifth and sixth ribs."

Dr. Traube, of Berlin, says that the tumor is the right ventricle, because the position of the right auricle is more to the right of the median line of the sternum.

Prof. Virchow—"I think from vivisections and from anatomical and pathological specimens in which the mediastinum and the heart, in consequence of a diminution of the left pleura, are drawn more to the left side, are placed similarly to those in the case of M. Groux. Consequently I am obliged to believe that the pulsating tumor is a part of the right ventricle, in the greatest expansion of which the conus arteriosus joins"

M. Marc d'Espine, of Geneva, concludes that the pulsations perceived in the middle of the sternal fissure arise from the beatings of the aorta; "considering, 1. That each pulsation which is observed in the sternal fissure follows so immediately each systolic shock of the heart, that these two movements seem synchronous. 2. That there is an interval of appreciable time between the pulsation medio-sternal which *precedes*, and that of the abdominal aorta which immediately follows. That there is too great a distance between the regions where the pulsations which we are considering are observed, and that where the ordinary beatings of the heart are observed, for the pulsations to be attributed to the systolic movement of the ventricles."

Dr. F. W. Pavy, of Guy's Hospital, writes in the Medical Times and Gazette, "The tumor occupying the position of the right auricle pulsates with the contraction of the ventricle and the production of the first sound of the heart. It rises rapidly and suddenly, and instantaneously afterwards falls with that peculiar thrill, wave or vermicular movement proceeding from above to below, which I pointed

out as, at this period of the heart's action, running through the parieties of the *auricle* of the dog. It then remains at rest until again disturbed by a fresh contraction of the ventricle. From the behavior of this pulsatile swelling, so precisely corresponding to the action of the auricle in the dog, there is not a shadow of doubt in my own mind of its being formed by this portion of the heart."

Dr. Lionel S. Beale says, "that the tumor consists partly of the right auricle and partly of the right ventricle."

Dr. Francis Sibson: "The pulsating tumor at the upper part of the fissure is the aorta, and during inspiration the aorta alone is felt; but during a prolonged expiration the right auricle ascends, and it is then seen to dilate during the ventricular systole, to contract during the ventricular diastole; in fact, then, the aorta may be felt pulsating at the upper part of the fissure, moving upwards and downwards, and the right auricle may be seen at the lower part of the fissure, moving from right to left, and *vice versa*. When M. Groux lies on the right side, I consider that the pulmonary artery presents itself, pulsating at the left side of the lower two-thirds of the fissure; when he lies on the left side, I consider that the right auricle presents itself to a greater extent than when he stands."

Dr. C. J. B. Williams has given a lengthy opinion, which we transcribe in full:

"MOTIONS.—That the *visible* pulsation in the middle third of the sternal vacuity is chiefly seated in the right auricle, appears to me obvious from its resemblance to the same motion observed in the exposed heart of the ass, and from the fact, distinctly perceptible in slow pulsations, that the motion immediately precedes the ventricular systole, the wave of motion beginning with the auricle and rapidly passing downwards to the ventricle. In quick pulsations, the motion of the auricle is felt in the sternal space, and the systole of the ventricle as felt and heard in its region seem to be synchronous; but, I repeat, in the more deliberate movement, when the pulse ranges about sixty-five in the minute, the wave-like progression can be traced from the auricle to the ventricle, the upper margin of which sometimes comes into view at the lower portion of the sternal vacuity. To the rapid systolic movement succeeds a slow *dilatation;* and that this proceeds from the flow of blood into the auricle from the venous trunks, is made more plain by the fact, that pressure on the abdomen, which forces the blood onwards through the ascending vena cava, accelerates the expansion of the auricle. The *aorta* can be felt pulsating, more deeply seated, above the position of the auricle; and a like pulsation of the

pulmonary artery may be felt through a portion of the auricle, close to the left margin of the fissure.

"Sounds.—The sounds accompanying the respective motions can also be distinguished with clearness only in the slow pulsations. By aid of a small flexible ear tube with a narrow pectoral end, I was enabled to hear a *distinct sound accompanying* the commencement of the auricular contraction. It is faint and short, or flapping, and ends in the less abrupt and more distinct sound of the ventricular systole. When the stethoscope is placed over the ventricle, the flapping sound of the auricle is not heard, but the ventricle swells or rolls out its peculiar sound, till it ends with the sharp clack of the diastalic or valvular sound. I infer from the preceding observation, (as well as from similar ones made twenty years ago on animals,) that each movement of the heart has its proper sound; and that the reason why the auricular sound is not usually heard, is that it is too faint to pass through the intervening lung and wall of the chest.

"The *diastalic valvular or second sound* is remarkable for its clearness and loudness in this case; and on one occasion I found it *reduplicated* or double; and I had the opportunity of verifying the explanation which I gave of this double diastalic sound more than twenty years ago. When the end of the stethoscope was placed over the aorta, above the auricle, the diastalic sound was simple; but on carrying the instrument a little downwards, and to the left, so as to cover a part of the pulmonary artery, the sound became double; the whole heart-sound being expressed by the syllables *lubb-durrup*, instead of *lubb-dup* as usual, obviously from the two sets of valves closing in succession, not simultaneously. This want of coincidence in the closure of the aortic and pulmonary valves is only occasional, but as it often presents itself as a phenomenon of disease, it is satisfactory to be able thus to trace it to its cause.

"The only remaining observation which I have to record is that of a short rasping murmur, heard in the course of the right carotid artery, and which must be produced there, as it is not audible in the aorta or over the course of the innominata."

Dr. C. Radcliffe Hall and others of Plymswood, Torquay, state: "The most prominent pulsation is occasioned by the right auricle. It seems to us that three distinct degrees of distance of sound, indicating as many distinct sources, may be made out from above downwards; the sound over the presumed auricle being far more superficial and bell-like than either the one above (aorta,) or the one below (right ventricle.)"

Dr. J. Hughes Bennett, Edinburgh: "Has no doubt that the pulsation above is that of the aorta, the prominent undulating one in the centre is that of the right auricle, and the inferior one observable on his taking a deep inspiration is that of the right ventricle."

Dr. W. T. Gairdner, of Edinburgh, also gives a lengthy opinion, which, as it has not been published, we give in full.

"The upper *visible* pulsation (A) is auricular; probably of the right auricular appendage.

"It precedes the arterial pulse which is felt above it by a very appreciable interval.

"It precedes the apex beat by an interval appreciable, but not so easily appreciable. Care must be taken to press lightly on the pulse A, in making this observation, otherwise the ventricle is felt pulsating below what I take to be the auricle, and is of course synchronous with the apex beat.

"It precedes the lower visible pulsation (B) by an appreciable interval. The only difficulty here arises from the fact that the movement is in opposite directions. B is rather a movement of retraction than a proper pulsation.

"The *pulsation* A *increases*, and the auricle *slowly fills under the eye* when M. Groux suspends respiration for a time. This phenomenon, like the welling of water into a basin which fills from below, can be easily distinguished from the protrusion of the lung which takes place when a sudden respiratory movement concurs with a closed glottis. When M. Groux coughs, the lung protrudes, but not the auricle; when he simply ceases to breathe for several seconds, without either expiring or inspiring, the auricle protrudes, but not the lung. Percussion also shows the difference between the two. This gradual filling of the right auricle when respiration is suspended, and the enlargement of its pulsations which follows, is quite in accordance with what is seen in vivisections, when partial asphyxia is gradually induced. In *forced* respiratory movement with the glottis closed, the protruded lung conceals the auricle, and interferes with the observation of its phenomena. In forced inspiration the heart is drawn back from the thoracic wall. The favorable state, therefore, for noticing the gradual filling of the auricle is intermediate.

"I presume the movement which I have called B (the lower visible pulsation) to be in connection with the systole of the right ventricle. It is only visible in full inspiration, because it requires the descent of the diaphragm to bring the heart down to the left costal margin, when this movement is observed, and it is a movement of retraction

because the systole of the ventricle withdraws it from the surface. A similar movement is occasionally seen in men perfectly well formed, perhaps not in perfect health, but without marked disease of heart.

"During suspended respiration the apex beat in the usual situation becomes indistinct, and may, perhaps, finally be lost, though I have generally found it continue. At the same time a movement becomes apparent in the third, and then in the second intercostal space. This phenomenon is very curious, and well worthy the attention of physiologists. It was attributed by some of those who observed it at the Medico-Chirurgical Society here, to be an actual displacement upwards of the apex. I am rather of the opinion that it is owing to the increasing distension of the right ventricle, which throws back the true apex of the heart from the thoracic walls.

"In the strictly normal condition of parts, the same change takes place, so far as the disappearance of the true apex beat is concerned; but I have not seen the pulsation higher up except in disease. In adherent pericardium, and even hypertrophy of the right ventricle, it is not unfrequent. In M. Groux, when the heart's action is excited, it can be easily felt on deep pressure in four intercostal spaces simultaneously.

"With regard to the reduplication of the first sound which I formerly noted, I am still of opinion that it probably contains an auricular element, and is dependent on the want of synchronism between the auricular and ventricular contractions. But we are too little sure of the causes of the first sound, to allow of our speculating on the matter."

Dr. P. Redfern, of Aberdeen, says: "I conclude that at the upper part of the fissure the aorta, or one or more of its branches, may be felt; that the undulating tumor at about the middle of the sternum is the right auricle, and that the one less easily seen, lower down and to the left of the fissure, is the right ventricle.

"I believe that the pulsations of the tumor at the middle of the sternum take place first, and that they are then succeeded by the synchronous pulsations of the lower sternal tumor and of the apex.

"The lungs do not approach the middle line in inspiration in M. Groux's case, because of the absence of the sternum and the depression of this part of the thoracic wall at that time by the pressure of the atmosphere; the lung is forced through the fissure during expiration simply because this part of the wall is weaker than the rest. It is unsafe to draw any conclusion as to the production of emphysema from this case.

"I believe both sounds of the heart to be produced by valvular tension entirely. Unless the auricles throw the blood with force into the ventricles, the auriculo-ventricular valves could not prevent copious regurgitation. The contraction of the auricle throws the valves upwards indirectly, and *may at times* produce such tension in them as to cause the faint flapping sound which is continued and completed at the first sound by the further tension caused by the succeeding ventricular contraction. Hence the reduplication of the first sound at times heard in M. Groux's case, and in disease. Even in this case I see no good ground for concluding that either muscular contraction or any other cause than the valvular tension is concerned in the production of either of the heart's sounds."

Dr. Carlisle, of Belfast, writes thus: "I do not think this pulsation is caused by the right auricle, because the movements of the auricle, when viewed in the beating heart in animals of warm blood, are of a different character. In such, during the systole of the ventricles, the auricles become gradually distended with blood from the venous trunks, and just as the systole ends, a portion of the blood passes suddenly from the auricles into the ventricles, whereby the size of the former is slightly diminished, but no active contraction appears at that time to take place in the auricles, this being the period of repose of the heart. Immediately afterwards a slightly marked peristaltic motion across the auricles commences in the right auricle, at the orifices of the venæ cavæ. When this movement has reached the appendices, these suddenly contract and become flattened and somewhat hardened, and immediately afterwards the ventricles spring forward and assume the condition which denotes their systole. No movement takes place in either auricle which would cause the pulsation felt in the middle sternal region of M. Groux's case.

"I believe this pulsation to be that of the ascending aorta. If the fingers of one hand be placed along the surface of the seat of pulsation, in a line from above downwards, a single pulsation is felt by all the fingers so placed, extending from the lower to the upper boundary of the space as before described. If the ear be at the same time applied over the region of the apex and left side of the ventricular portion of the heart, the first sound and the impulse are found to be coincident with that pulsation, namely, with the augmentation in the size of the pulsating part, and the second sound coincident with the diminution in size and the receding under the fingers of the same part. If the radial artery be felt by the other hand, the pulsation above mentioned precedes the pulsation in the radial artery by an appre-

ciable interval. For these reasons I conclude that the pulsation in question is that of the ascending aorta. It is possible that, at the lower part, the pulmonary artery, which there lies in front of the aorta, may contribute to form the pulsation, but I was unable to discriminate between the pulsation of the pulmonary artery and that of the aorta."

Dr. Charles C. King, Professor of Anatomy and Physiology to Queen's College, Galway, Ireland, says: "I am of opinion that the undulating movement from above downwards and towards the left side, and which is observable in the centre of the sternal fissure, depends upon the contraction of the right auricle of the heart, and the pulsation inferiorly and to the left side is produced by the right ventricle; its direction is upwards and to the right side; the auricular pulsation immediately precedes the ventricular. Immediately above the auricle the beat of the aorta can be distinctly felt. On placing the extremity of a small stethoscope very gently on the auricle, a single sound is distinctly heard; on pressing more firmly, the auricle, or probably its appendix, yields, and the instrument comes into close relation with the origin of the pulmonary artery and aorta, and a double sound is heard. When the heart is beating quietly and slowly, a *double second* sound is perceptible. I attribute this to the flapping down of the pulmonic and aortic valves, not being perfectly synchronous."

Dr. Robert D. Lyons, of Dublin, Ireland, has, in a lengthy article which appeared in the Atlantis for July, 1858, analyzed all the motions and sounds of the heart observed in the case of M. Groux. The oval pulsating tumor he believes to be a part of the right auricle, having a single sound and a single impulse; another sound, deeper seated and double, is heard by pressing the stethoscope upon the walls over the auricle, which causes this part of the heart to recede; the first and single sound is superficial, and belongs to the auricle; the deeper seated are those of the pulmonary artery.

M. Groux has been presented to the Academy of Medicine, the Pathological Society, the German Medical Society, each of the Colleges, and to very many private societies in this city, in all of which the wonderful conformation of the thoracic walls, and the numerous experiments he shows to illustrate the sounds and motions of the heart and lungs, have elicited the greatest degree of interest.

— The sanitary condition of this city, and the best means of improving it, have, during the past month, attracted a great deal of attention

from the public as well as from the profession. The daily journals notice it, and the *Times* has printed a long and pretty well considered article upon the subject. Many prominent men of the profession have been before the Committee of the Senate of this State, to give their opinions of the necessity of a change in the sanitary officers of this city, while the officers who are now in power have endeavored to demonstrate to the Committee that it is entirely unnecessary to make any change. In fact, they affect to prove that a change would be for the worse, and so far as the condition of their own pockets is concerned we believe they are correct.

So much interest is excited in the subject that a meeting of medical men was called to express their opinions upon the subject, and it is said to have been the largest meeting of the profession ever held in New York. Entire unanimity marked all the opinions which were expressed by the speakers, and for once doctors did *not* disagree. Surely there must be some reason for all this commotion and excitement, which cannot reasonably be accounted for by the attraction of salary, or by the mere clannishness of professional men—to which sin, by the way, doctors are very little given.

Deny it who may, the truth is that the medical men of this city are convinced that New York ought to be, what it is not by any means, the healthiest city, of its size, in the world; and believing that the first step to make it approach nearer to what it should be is to place men of knowledge in such matters in power, they have determined to do all that they can to bring about such a change. It is worth while to notice, moreover, that of the two their interest lies in having things remain as they are; but with that large hearted benevolence, of which we believe the profession as a body can boast, they are struggling for the good of those who are ignorant of their danger, or opposed to their measures—for the good of thousands who are to be, as well as of those who now are, our citizens. And there certainly must be something wrong about our sanitary arrangements.

London, with the Thames turned into a great sewer, and flowing through its most crowded portions, sending up exhalations into the very Parliament House, which human nostrils cannot endure—London, with all this disadvantage added to its greater size, is to-day a more healthy city than New York. Everything shows that the methods which have been followed, and the men who have had charge of them, have failed to make this city what it can be made. Then let a change be tried. It cannot be any worse for the city or for its citizens. We risk nothing in saying it will be vastly better for both. But sitting

quietly in our editorial chair, away from the immediate excitement of the contest, we think we may see some things which are not so visible to those who are blinded by the dust of the conflict. And we would say to our brethren, be not given to exaggerate. *Ne quid nimis.* For the evils against which you would contend, and of which you complain, are real enough and terrible enough without referring to the imperfect ventilation of cars, and other little matters with which law cannot interfere, or which, when you speak of them with the same language that you use in speaking of great evils, lead to the suspicion that all your ideas are Utopian. It is not wise to talk too much. It is not in the multitude of words that wisdom is found.

To the Inspector and his adherents we beg leave to say, the profession do not insist upon Dr. Griscom's taking your office. It is not for him that all the commotion is made, and it is hardly worth your while to assail him. Dr. Griscom and Dr. McNulty have acted as a committee of the most prominent medical society in this city, in urging this upon our legislators, and are deserving of all the credit which they receive—and it is not little—for the energy and perseverance which they have shown. But it is not for their sakes that the profession meets. It has a stronger and more urgent motive—the good of their fellow citizens. We do not deny that you are very clever men in your way, but the education of the Herald office evidently has not fitted you for taking care of the public health. Many lives have been sacrificed to your system, and you must not wonder that physicians, seeing this, feel it to be their duty to endeavor to overthrow that system.

To our readers away from this city, but in the state, of whom we have many, we have a favor to ask, not for ourselves, but for humanity. Make it a point of honor, brethren, each and all of you, to see your representatives in the Assembly and in the Senate, and enlighten them upon the wishes and aims of the profession in this city, and their reasons for urging the change in sanitary matters here. It will then be free from party prejudices in their minds; they will see the important bearing of the bill, and when it comes up for their consideration they will be ready to enter upon it with intelligence; they will see why all the state has an interest in it, and we doubt not will be inclined to press it through to make it a law. Brethren, we appeal to your kind feelings—we appeal to your humanity, and urge you by the value of hundreds of lives placed in peril, to come up thus practically and efficiently to our help. Let not the Juggernaut of official imbecility and incompetence longer crush us beneath its horrid wheels.

— At the regular meeting of the Academy of Medicine, Nov. 3, *Dr. J. W. Corson* read a paper on the Position of the Shoulders in Chest Examinations, and *Dr. Samuel Rotton* read a minority report on Fluid Extracts.

The Annual Discourse before the Academy was delivered this year on the evening of the 25th of November, by *Prof. E. R. Peaslee.* The subject of the discourse was "The Progress and the Spirit of Medical Science." This address will undoubtedly be published by the Academy, when we will take the opportunity of presenting a portion of it to our readers.

— Some months since a Special Committee of the Board of Councilmen of this city was appointed for the purpose of considering and reporting upon the propriety of establishing in this city a Foundling Hospital. This Committee has recently reported in favor of an Infant's Home, serving all the purposes of a Foundling Hospital. It still needs the assent of the other branches of our city government before it can become a permanent institution.

From a letter by BAYARD TAYLOR, in the *Tribune*, we extract the following account of the Foundling Hospital in Moscow:

In Russia, the Foundling Hospital is characterized by some peculiar and very interesting features, which deserve to be generally known, as they are intimately connected with one of those tender moral questions our civilization is afraid to handle.

In every general view of Moscow, the eye is struck by an immense quadrangular building, or collection of buildings, on the northern bank of the Moskoa, directly east of the Kremlin The white front towers high over all the neighboring part of the city, and quite eclipses, in its imposing appearance, every palace, church, military barrack or other public building whatever. It cannot be much less than a thousand feet in length, and at a venture, I should estimate its size at three times that of the Capitol at Washington. The Governorship of this institution is only second in importance to that of the city itself, and is always conferred upon a nobleman of distinguished rank and attainments. The importance of the post may be estimated when I state that the annual expenses of the hospital amount to $5,000,000. A portion of the government revenues are set aside for this purpose, in addition to which successive Tzars, as well as private individuals, have richly endowed it. The entire property devoted to the support, maintenance and education of foundlings in Russia is said to amount to the enormous sum of five hundred millions of dollars.

This stupendous institution was founded by Catharine II., immediately after her accession to the throne in 1762. Eight years afterward she established a branch at St. Petersburg, which has now outgrown the parent concern, and is conducted on a still more magnificent scale. The original design appears to have been to furnish an

asylum for illegitimate children and destitute orphans. A lying-in hospital was connected with it, so that nothing might be left undone to suppress crime and misery in a humane and charitable way. The plan, however, was soon enlarged so as to embrace *all* children who might be offered, without question or stipulation—the parents naturally giving up their offspring to the service of the government which had reared them. Russia offers herself as midwife, wet nurse, mother and teacher to every new soul for whom there is no place among the homes of her people, and nobly and conscientiously does she discharge her self-imposed duty. She not only takes no life, (capital punishment, I believe, does not exist,) but she saves thousands annually. She, therefore, autocracy as she is, practically carries into effect one of the first articles of the ultra-socialistic code.

Through Col. Claxton's kindness, I obtained permission to visit the Foundling Hospital. We were received by the Superintendent, a lively, intelligent gentleman, with half a dozen orders at his buttonhole. Before conducting us through the building, he stated that we would see it to less advantage than usual, all the children being in the country for the summer, with the exception of those which had been received during the last few weeks. There is a large village about thirty versts from Moscow, whose inhabitants devote themselves entirely to the bringing up of these foundlings. We first entered a wing of the building, appropriated to the orphan children of officers. There are 1,200 at present in the institution, but all of them, with the exception of the sucklings, were enjoying their summer holidays in the country. It was the hour for their midday nap, and in the large airy halls lay a hundred and fifty babes, each in its little white cot, covered with curtains of fine gauze. Only one whimpered a little; all the others slept quietly. The apartments were in the highest possible state of neatness, and the nurses, who stood silently, with hands folded on their breasts, bowing as we passed, were also remarkably neat in person.

These children enjoy some privileges over the foundlings and poorer orphans. The boys are taught some practical science or profession, and not unfrequently receive places as officers in the army. The girls receive an excellent education, including music and modern languages, and become teachers or governesses. As the larger children were all absent, I could form no idea of the manner of their instruction, except from an inspection of the school and class rooms, the appearance of which gave a good report. The Superintendents and Teachers are particularly required to watch the signs of any decided talent in the children, and where such appears to develop it in the proper direction. Thus, excellent musicians, actors, painters, engineers, and mechanics of various kinds have been produced, and the poor and nameless children of Russia have risen to wealth and distinction.

On our way to the hospital proper, we passed through the church, which is as cheerful and beautiful a place of devotion as I have seen since leaving the Parthenon. The walls are of scagliola, peach-blossom color, brightened, but not overloaded with golden ornaments. The dome, well painted in fresco, rests on pillars of the same material, and

the hall altar-screen, though gilded, is not glaring; nor are the Saints abnormal creatures, whose like is not to be found in heaven or on earth. The *prestol* or inmost shrine stands under a dome whose inner side contains a choral circle of lovely blonde-haired angels, floating in a blue, starry sky. All parts of the vast building are most substantially and carefully constructed. The walls are of brick or stone, the floors of marble or glazed tiles in the corridors, and the staircases of iron. The courts inclose garden-plots radiant with flowers. The arrangements for heating and ventilation are admirable. With such care, one would think that a naturally healthy child would be as sure to live as a sound egg to be hatched in the Egyptian ovens.

We passed through hall after hall filled with rows of little white cots, beside each of which stood a nurse, either watching her sleeping charge, or gently rocking it in her arms. Twelve hundred nurses and twelve hundred babies! This is homoculture on a large scale. Not all the plants would thrive; some helpless little ones would perhaps that day give up the unequal struggle, and before men and women are produced from the crop there sown, the number will be diminished by one-third. The condition in which they arrive, often brought from a long distance in rough weather, accounts for the mortality. When we consider, however, that the deaths both in Moscow and St. Petersburg annually exceed the births, it is evident that the Government takes better care of its children than do the parents themselves. Of the babies we saw, seven had been brought in on the day of our visit, up to the time of our arrival, and fourteen the previous day. The nurses were stout, healthy, ugly women, varying from twenty to forty years of age. They all wore the national costume—a dress bordered with scarlet, white apron, and a large fan-shaped head-dress of white and red. In every hall there was a lady-like, intelligent overseeress. In spite of the multitude of babies, there was very little noise, and the most nervous old bachelor might have gone the round without once having his teeth set on edge.

The Superintendent then conducted us to the office or agency, on the lower story, where the children are received. The number of clerks and desks, and the library of records, showed the extent of the business done. I looked over a report of the operations of the institution from its foundation to the present time. The number of children confided to its care has increased from a few hundred in 1762 to 14,000 in 1857. Since the commencement of this year (Jan. 13, O. S.,) 6,032 have arrived. The entire number received in ninety-six years is 330,000, to which may be added 60,000 more, born in the lying-in hospital during the same period—making 390,000 in all. The Petersburg branch affords still larger returns, so that at present 30,000 children are annually given into the care of the Government. A very large proportion of them are the offspring of poor married people, in all parts of the country. As the children may afterward be reclaimed, on certain conditions, and are in any case assured of as fortunate a lot, at least, as would have been theirs at home, the parents are the more easily led to take advantage of this charity. The child is taken without question, and therefore no reliable statistics of the public morality can be obtained from this source.

The office is kept open night and day, and no living child which is offered can be refused. The only question asked is, whether it has been baptized. If not, the ceremony is immediately performed in an adjoining room, by a priest connected with the institution, one of the oldest nurses generally acting as godmother. Its name and number are then entered in the official book; a card containing them and the date of its arrival is attached to its neck, and another given to the mother, so that it may afterward be identified and reclaimed. Very frequently the mother is allowed to become its nurse, in which case she receives pay like the other nurses. After six weeks or two months in the institution it is sent into the country, where it remains until old enough to receive instruction. The regular nurses are paid at the rate of about $50 a year, in addition to their board and lodging. If the parents pay a sum equal to $25 on the deposition of the infant, they are entitled to have it brought up exclusively within the walls of the institution, where it is more carefully attended to than elsewhere. The payment of $200 procures for it, if a boy, the rank of an officer. The parents are allowed to see their children at stated times, and many of them take advantage of this permission. The greater part, however, live in the provinces, and virtually give up their children to the State; though it is always possible, by consulting the hospital directory, to find where the latter are, and to recover them.

In the lying-in hospital all women are received who apply. They are allowed to enter one month before their confinement, and to remain afterward until their health is entirely restored. Those who wish to be unknown, are concealed by a curtain, which falls across the middle of the bed, so that their faces are never seen. Besides this, no one is allowed to enter the hospital, except the persons actually employed within it. The late Emperor, even, respected its privacy, and at once gave up his desire to enter, on the representations of the Governor. The arrangements are said to be so excellent, that not only poor married women, but many who are quite above the necessity of such a charity, take advantage of it. In this case, also, the number of children brought forth is no evidence as to the proportion of illegitimate births. It is not obligatory upon the mother to leave her child in the hospital; she may take it with her, if she chooses, but it will of course be received, if offered.

Besides the soldiers, common mechanics and factory girls, which the children of merely ordinary capacity become, the Government has, of late years, established many of them as farmers and colonists on the uncultivated crown lands. They are mated, married, and comfortably settled in villages, where, in addition to their agricultural labors, they frequently take charge of a younger generation of foundlings. I have seen some of these villages, where the houses were all neat Swiss cottages, under the projecting eves of which the families sat in the mild evening air, while groups of sprightly children, too nearly of an age to belong to the occupants, sported before them. The people looked happy and prosperous. If there is a patriotic peasantry on earth, they should certainly belong to it. They are, in the fullest sense of the term, children of their country.

The St. Petersburg Hospital, though in the heart of the city, covers, with its dependencies, twenty-eight acres of ground. Upwards of five hundred teachers are employed, many of them on very high salaries. The number of nurses, servants, and other persons employed in the establishment, amounts to upward of five thousand. The boys and girls, both here and in Moscow, are taught separately. The cost of their education, alone, is more than $1,000,000 annually. In a word, Russia spends on her orphans and castaways as much as the entire revenues of Sweden, Norway and Greece.

—*Diphtheria:* Discussion before the Medical Society of London. Oct. 18. Dr. SEMPLE called the attention of the Society to a disease which was exciting very great interest at the present moment—namely, Diphtheria. He had been called down to Bagshot to see some cases of the affection in question, but he arrived about an hour after one of the patients had died; he found that the last fatal case was the third in the same family, the ages of the patients being respectively eight, twelve, and fifteen years. They died at intervals of about a week from each other; and while the funeral service was being performed on one of the children, the death of the elder sister, aged fifteen years, occurred. Dr. Semple, however, repaired to the house of the patient, in company with Dr. Blount of Bagshot, and obtained permission to make a post-mortem examination of the body, although to a limited extent. It was to be regretted that very few examinations after death had been obtained in this disease, owing to the prejudices existing in the minds of relatives, especially in the rural districts. However, nearly the whole of the diseased parts were examined, consisting of the tonsils, a part of the tongue and of the pharynx, the epiglottis, the larynx, and the trachea. On the whole of these parts the pellicular membrane, which is the characteristic feature of true diphtheria, was developed. It was especially necessary to bear this character in mind, because he (Dr. Semple) had reason to believe that, at the present time, many affections of the throat were confounded together, under the name of diphtheria, which had very little relation to that disease—at least in the sense in which the term was used by Bretonneau, Trousseau, Guersent, and other French writers. It was especially necessary to exclude the scarlatinal sore throats from the category of diphtheria, because scarlatina has no real or necessary connection with the diphtheric epidemic. Other cases which were confounded with diphtheria were ulcerated sore throats of various kinds, cancrum oris, and even common tonsillitis. The true distinction existing between diphtheria and the malignant ulceration of the tonsils in scarlatina, was to be found in the circumstance that the pellicular exudation in diphtheria may be readily removed by the handle of the scalpel, leaving the mucous membrane below it, congested indeed, but smooth and entire; whereas, in the malignant ulceration of scarlatina, the substance of the tonsils is actually eaten away and destroyed. The fatality of diphtheria was quite appalling. Dr. Blount had attended eight cases of the disease in the vicinity of Bagshot, and every one of them had been fatal. Both the com-

mencement and the termination of the disease were marked by peculiarly treacherous and insidious characters: the symptoms, at first, are so slight, that they are hardly noticed by the patients or their relatives; and when medical advice is at last sought for, the pellicular exudation has generally reached the air passages, when the hopes of recovery are almost extinguished. The termination of the disease is equally insidious, and is often quite unexpected; for although many patients die with symptoms of well-marked asphyxia, yet others perish suddenly by syncope, while they appear to be going on favorably. Dr. Semple was remarkably struck with the circumstance that the locality, where these fatal cases occurred, was not one where one might expect, *à priori*, a malignant and fatal form of disease to prevail; for the surrounding country was open and beautiful, the soil dry, and the patients by no means placed in unfavorable hygienic conditions; nor did it seem that the disease attacked ill-fed or puny children, for the girl, whose body was examined, was a plump, well-formed person, moderately fat, and with good muscular development. The therapeutical management of this disease was a question of great importance; but, hitherto, all kinds of treatment had been attended with very unsatisfactory results; the best treatment was, unquestionably, the application of strong caustics to the throat, at the very earliest possible period; and the hydrochloric acid, used in a concentrated form, was perhaps the best. This appears to stop the progress of the false membrane into the air passages, and acts somewhat in the same manner as concentrated nitric acid in preventing the progress of phagedænic ulceration. When the false membrane has reached the trachea and bronchi, there is very little hope for the patient. The next question is whether, when this extension has taken place, the operation of tracheotomy—so much extolled and so extensively practised by the French physicians—ought to be resorted to. In the case of the girl at Bagshot, Dr. Semple was prepared to recommend the performance of the operation, if he found the patient alive, and if she were suffering from the symptoms of asphyxia; but the post-mortem examination proved that this proceeding must have been useless, for the false membrane was so extensively spread over all the air passages that it could not have been removed, and it had so little tenacity that it would have broken under the forceps used for extracting it. True diphtheria, therefore, was characterized by the presence of the false membrane at the back of the mouth, extending, in the fatal cases, into the air passages, and causing death by obstructing the respiration; and it differed, on the one hand, from those sthenic forms of throat disease which were accompanied by full pulse, and the other ordinary signs of acute inflammation; and, on the other hand, it differed from those low forms of throat-disease which arose from a depressed habit of body, from unclean and unhealthy habitations, and from the complication of scarlatina. The extensive prevalence of diphtheria, at the present day, demanded the attention of the Government; it was sweeping off great numbers of the rural population, both young children and persons verging on puberty; and, from the peculiarly insidious nature of the early symp-

toms, it was generally neglected until remedial means were of no avail.

Dr. Stavely King doubted the propriety of tracheotomy in this disease. He thought the patient would die of exhaustion under the knife. Many cases of so-called diphtheria were merely cases of common throat affection; such as, on the one hand, was low form of angina in scarlet fever, and, on the other, sthenic croupal inflammation. He related some cases of diphtheria, which had come under his observation, in which the early symptoms were very obscure. In his opinion, the disease was to the respiratory membrane what thrush was to the intestinal. He believed it had a confervoid origin, and that the effect of the poison, when absorbed, was, in its elimination, to set up a sthenic inflammation simulating croup. Hence his treatment, in the cases referred to, consisted in the employment of powerful counter-irritation, the application of a leech to each side of the trachea, chlorine washes, and the administration of port wine, quinine, and chlorate of potash.

Mr. Streeter thought the disease was essentially allied to croup, and advocated the use of emetics.—*Lancet.*

Syphilis.—Curative Treatment by Vaccine Virus.

M. Justin Lukomski, Lieutenant-Captain of the Forestiers in the service of Russia, has just addressed to all the organs of the medical press a communication on the anti-syphilitic action of the vaccine virus. Syphilis, says the Author, may be cured by vaccination; but in rare cases, when the disease is very mild and still more or less recent, is a single vaccination sufficient. Usually, several successive vaccinations, 5, 6, 8, 10, 12, are required; and ten or twelve punctures each time. The interval which M. Lukomski allows to elapse between two vaccinations is a week. The number of punctures at each vaccination necessarily depends on the quantity of virus at one's disposal; but there is reason to believe that the result is satisfactory in proportion to the number of punctures and the quantity of virus deposited. It must be added that success depends also on the freshness, the energy —in a word, the goodness of the vaccine-matter. Under the influence of this agent, when it is effective, and well applied, all the symptoms of primary and constitutional syphilis soon disappear; urethritis and vaginitis, chancre, bubo, excrescences and vegetations, pustules, papulæ, and, in general, all varieties of syphilitic eruptions. Of all these symptoms, excrescences and vegetations pass away the most quickly; pustules and papulæ are the last to disappear; in all cases, vaccination suffices without any auxiliary means of treatment, without internal or external remedies, without lotions or regimen. M. Lukomski acknowledges that the novelty of the method does not permit the surgeon to ascertain whether the syphilitic viris is entirely neutralized by this treatment, or whether the symptoms will reappear at a later period. Experience alone will decide this question; but what ought to induce a trial of this singular treatment just described is, that it has already rendered unquestionable services, and that it is not open to any of the reproaches with which syphilization has been assailed.—*Journal of Practical Medicine and Surgery.*